

Pro Lys Glu Ala Val Pro Glu Glu Ala Arg Ser Asp Ile His Tyr Ser
 265 270 275
 gtg cct gag ggc ccc aag cct gct gtc cct tct gct cgg aat gct cca 979
 Val Pro Glu Gly Pro Lys Pro Ala Val Pro Ser Ala Arg Asn Ala Pro
 280 285 290
 tac ttc ccc tgt gac aaa gcc agc aaa gaa gaa gag aga cct tct tcg 1027
 Tyr Phe Pro Cys Asp Lys Ala Ser Lys Glu Glu Glu Arg Pro Ser Ser
 295 300 305
 gag gat gag att gcc ctg cat ttc gag ccc ccc aat gca ccc ttg aac 1075
 Glu Asp Glu Ile Ala Leu His Phe Glu Pro Pro Asn Ala Pro Leu Asn
 310 315 320 325
 cgg aag ggt ctg gtt agt ccc cag agt ccc cag aaa tcc gac tgc cag 1123
 Arg Lys Gly Leu Val Ser Pro Gln Ser Pro Gln Lys Ser Asp Cys Gln
 330 335 340
 ccc aac tca ccc aca gag tcc tgc agc agc aag aac gcc tgc atc ctt 1171
 Pro Asn Ser Pro Thr Glu Ser Cys Ser Ser Lys Asn Ala Cys Ile Leu
 345 350 355
 cag gcc tct ggc tct ccg cca gcc aag agc ccc act gac ccg aaa gcc 1219
 Gln Ala Ser Gly Ser Pro Pro Ala Lys Ser Pro Thr Asp Pro Lys Ala
 360 365 370
 tgc aac tgg aag aag tat aag ttc atc gtt ctc aac agc ctc aat cag 1267
 Cys Asn Trp Lys Lys Tyr Lys Phe Ile Val Leu Asn Ser Leu Asn Gln
 375 380 385
 aat gcc aaa ccc gag ggc tct gag cag gca gag ctg ggt cgc ctc tcc 1315
 Asn Ala Lys Pro Glu Gly Ser Glu Gln Ala Glu Leu Gly Arg Leu Ser
 390 395 400 405
 cct cga gcc tac cct gca ccg ccc gct tgc cag ccg cct atg gag ccc 1363
 Pro Arg Ala Tyr Pro Ala Pro Pro Ala Cys Gln Pro Pro Met Glu Pro
 410 415 420

gcg aac ctt gat ctc cag tcc ccg acc aag ctc agt gcc agt ggg gag 1411
 Ala Asn Leu Asp Leu Gln Ser Pro Thr Lys Leu Ser Ala Ser Gly Glu
 425 430 435
 gac tct acc atc ccc caa gcc agc cgg ctc aat aat ctc gtg aac agg 1459
 Asp Ser Thr Ile Pro Gln Ala Ser Arg Leu Asn Asn Leu Val Asn Arg
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 tcc ctg gga ggc tcc ccc cga agc agc agt gag agt cac tca cca ctc 1507
 Ser Leu Gly Gly Ser Pro Arg Ser Ser Ser Glu Ser His Ser Pro Leu
 455 460 465
 tac atg cac ccc cca aag tgc aca tcc tgc ggc tct cag tcc cca cag 1555
 Tyr Met His Pro Pro Lys Cys Thr Ser Cys Gly Ser Gln Ser Pro Gln
 470 475 480 485
 cat aca gag atg tgc ctc cat act gct ggg ccc acg ttc ccg gag gag 1603
 His Thr Glu Met Cys Leu His Thr Ala Gly Pro Thr Phe Pro Glu Glu
 490 495 500
 atg ggg gaa acc cag tca gag tat tcg gat tct agc tgt gag aat ggg 1651
 Met Gly Glu Thr Gln Ser Glu Tyr Ser Asp Ser Ser Cys Glu Asn Gly
 505 510 515
 acc ttc ttc tgc aac gaa tgt gac tgc cgt ttc tct gag gag gcc tcg 1699
 Thr Phe Phe Cys Asn Glu Cys Asp Cys Arg Phe Ser Glu Glu Ala Ser
 520 525 530
 ctc aag agg cac acg ctg cag acg cac agt gac aaa cca tac aaa tgt 1747
 Leu Lys Arg His Thr Leu Gln Thr His Ser Asp Lys Pro Tyr Lys Cys
 535 540 545
 gat cgc tgc cag gcc tcc ttc cgc tac aag ggc aac ctc gcc agc cac 1795
 Asp Arg Cys Gln Ala Ser Phe Arg Tyr Lys Gly Asn Leu Ala Ser His
 550 555 560 565
 aag act gtc cac acg ggt gag aaa ccc tat cgc tgt aac att tgt gga 1843
 Lys Thr Val His Thr Gly Glu Lys Pro Tyr Arg Cys Asn Ile Cys Gly

570	575	580	
gcg cag ttc aat cgg cca gcc aac ctg aag acc cac act cga att cac	1891		
Ala Gln Phe Asn Arg Pro Ala Asn Leu Lys Thr His Thr Arg Ile His			
585	590	595	
tct gga gaa aag ccc tac aaa tgt gaa acc tgt ggg gcc agg ttt gtt	1939		
Ser Gly Glu Lys Pro Tyr Lys Cys Glu Thr Cys Gly Ala Arg Phe Val			
600	605	610	
cag gtg gcc cac ctc cgt gcc cac gtg ctc atc cac act gga gag aag	1987		
Gln Val Ala His Leu Arg Ala His Val Leu Ile His Thr Gly Glu Lys			
615	620	625	
ccg tac ccc tgt gaa atc tgt ggc act cgc ttc cgg cac ctt cag act	2035		
Pro Tyr Pro Cys Glu Ile Cys Gly Thr Arg Phe Arg His Leu Gln Thr			
630	635	640	645
ctg aag agc cat ctg cgc atc cac aca gga gag aaa cct tac cat tgt	2083		
Leu Lys Ser His Leu Arg Ile His Thr Gly Glu Lys Pro Tyr His Cys			
650	655	660	
gag aag tgt aac ctg cac ttt cgt cac aaa agc caa ctg cga ctt cat	2131		
Glu Lys Cys Asn Leu His Phe Arg His Lys Ser Gln Leu Arg Leu His			
665	670	675	
ttg cgc cag aag cac ggc gcc atc acc aac acc aag gtg caa tac cgc	2179		
Leu Arg Gln Lys His Gly Ala Ile Thr Asn Thr Lys Val Gln Tyr Arg			
680	685	690	
gtg tcg gcc gct gac ctg cct ccg gag ctc ccc aaa gcc tgc tga	2224		
Val Ser Ala Ala Asp Leu Pro Pro Glu Leu Pro Lys Ala Cys			
695	700	705	
atgaagcatg gagtggtcct cgccctttcc tctccagccc cttctcagaa tctacccaaa	2284		
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<210> 814

<211> 707

<212> PRT

<213> Mus musculus

<400> 814

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 Asp Val Val Ile Val Val Ser Arg Glu Gln Phe Arg Ala His Lys Thr
 35 40 45
 Val Leu Met Ala Cys Ser Gly Leu Phe Tyr Ser Ile Phe Thr Asp Gln
 50 55 60
 Leu Lys Cys Asn Leu Ser Val Ile Asn Leu Asp Pro Glu Ile Ser Pro
 65 70 75 80
 Glu Gly Phe Cys Ile Leu Leu Asp Phe Met Tyr Thr Ser Arg Leu Asn
 85 90 95
 Leu Arg Glu Gly Asn Ile Met Ala Val Met Thr Thr Ala Met Tyr Leu
 100 105 110
 Gln Met Glu His Val Val Asp Thr Cys Arg Lys Phe Ile Lys Ala Ser
 115 120 125
 Glu Ala Glu Met Ala Pro Ala Leu Lys Pro Pro Arg Glu Glu Phe Leu
 130 135 140
 Asn Ser Arg Met Leu Met Pro His Asp Ile Met Ala Tyr Arg Gly Arg
 145 150 155 160
 Glu Val Val Glu Asn Asn Met Pro Leu Arg Asn Thr Pro Gly Cys Glu
 165 170 175
 Ser Arg Ala Phe Ala Pro Pro Leu Tyr Ser Gly Leu Ser Thr Pro Pro

180	185	190
Ala Ser Tyr Pro Met Tyr Ser His Leu Pro Leu Ser Thr Phe Leu Phe		
195	200	205
Ser Asp Glu Glu Leu Arg Asp Ala Pro Arg Met Pro Val Ala Asn Pro		
210	215	220
Phe Pro Lys Glu Arg Ala Leu Pro Cys Asp Ser Ala Arg Gln Val Pro		
225	230	235
Asn Glu Tyr Ser Arg Pro Ala Met Glu Val Ser Pro Ser Leu Cys His		
245	250	255
Ser Asn Ile Tyr Ser Pro Lys Glu Ala Val Pro Glu Glu Ala Arg Ser		
260	265	270
Asp Ile His Tyr Ser Val Pro Glu Gly Pro Lys Pro Ala Val Pro Ser		
275	280	285
Ala Arg Asn Ala Pro Tyr Phe Pro Cys Asp Lys Ala Ser Lys Glu Glu		
290	295	300
Glu Arg Pro Ser Ser Glu Asp Glu Ile Ala Leu His Phe Glu Pro Pro		
305	310	315
Asn Ala Pro Leu Asn Arg Lys Gly Leu Val Ser Pro Gln Ser Pro Gln		
325	330	335
Lys Ser Asp Cys Gln Pro Asn Ser Pro Thr Glu Ser Cys Ser Ser Lys		
340	345	350
Asn Ala Cys Ile Leu Gln Ala Ser Gly Ser Pro Pro Ala Lys Ser Pro		
355	360	365
Thr Asp Pro Lys Ala Cys Asn Trp Lys Lys Tyr Lys Phe Ile Val Leu		
370	375	380
Asn Ser Leu Asn Gln Asn Ala Lys Pro Glu Gly Ser Glu Gln Ala Glu		
385	390	395
Leu Gly Arg Leu Ser Pro Arg Ala Tyr Pro Ala Pro Pro Ala Cys Gln		
405	410	415

Pro Pro Met Glu Pro Ala Asn Leu Asp Leu Gln Ser Pro Thr Lys Leu
 420 425 430
 Ser Ala Ser Gly Glu Asp Ser Thr Ile Pro Gln Ala Ser Arg Leu Asn
 435 440 445
 Asn Leu Val Asn Arg Ser Leu Gly Gly Ser Pro Arg Ser Ser Ser Glu
 450 455 460
 Ser His Ser Pro Leu Tyr Met His Pro Pro Lys Cys Thr Ser Cys Gly
 465 470 475 480
 Ser Gln Ser Pro Gln His Thr Glu Met Cys Leu His Thr Ala Gly Pro
 485 490 495
 Thr Phe Pro Glu Glu Met Gly Glu Thr Gln Ser Glu Tyr Ser Asp Ser
 500 505 510
 Ser Cys Glu Asn Gly Thr Phe Phe Cys Asn Glu Cys Asp Cys Arg Phe
 515 520 525
 Ser Glu Glu Ala Ser Leu Lys Arg His Thr Leu Gln Thr His Ser Asp
 530 535 540
 Lys Pro Tyr Lys Cys Asp Arg Cys Gln Ala Ser Phe Arg Tyr Lys Gly
 545 550 555 560
 Asn Leu Ala Ser His Lys Thr Val His Thr Gly Glu Lys Pro Tyr Arg
 565 570 575
 Cys Asn Ile Cys Gly Ala Gln Phe Asn Arg Pro Ala Asn Leu Lys Thr
 580 585 590
 His Thr Arg Ile His Ser Gly Glu Lys Pro Tyr Lys Cys Glu Thr Cys
 595 600 605
 Gly Ala Arg Phe Val Gln Val Ala His Leu Arg Ala His Val Leu Ile
 610 615 620
 His Thr Gly Glu Lys Pro Tyr Pro Cys Glu Ile Cys Gly Thr Arg Phe
 625 630 635 640
 Arg His Leu Gln Thr Leu Lys Ser His Leu Arg Ile His Thr Gly Glu

645 650 655
 Lys Pro Tyr His Cys Glu Lys Cys Asn Leu His Phe Arg His Lys Ser
 660 665 670
 Gln Leu Arg Leu His Leu Arg Gln Lys His Gly Ala Ile Thr Asn Thr
 675 680 685
 Lys Val Gln Tyr Arg Val Ser Ala Ala Asp Leu Pro Pro Glu Leu Pro
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 Lys Ala Cys
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<210> 815

<211> 494

<212> DNA

<213> Mus musculus

<400> 815

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 aacttggcct ggtggacctc tgctgccgcc tggtccttat tccagcagct actctatggt 180
 ctcatctatc acagctggtt ccaggcagac ccggcagaag ctgagggcag ccccgagacg 240
 cgcgagacag ctgcgtcatg aaacagaccc agtactactt cggctcgggtg aacgcatcct 300
 ataatgccat cattgactgc ggaaactgca gcaggctgtt ccatgcgcag agactgacca 360
 acaccaatct cctgttcgtg gtggccgaga agccgctgtg cagccagtgc gaggcggggc 420
 ggctgctgca gaaggagaca cactcggacg gcccgagca gtgtgagctg gtgcagagac 480
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<210> 816

<211> 2652

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (517).. (2151)

<400> 816

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cgccatctct gctcggatc tctcgtgtg cccaagtcaa cattcccacc cccaaagaat 180
ttcaagaaga caaacaagcc aagactatgt aagccatntc tctttgactc tgagaacaac 240
ctgggcctag aagatggtag aactatatcc cagcagcacg agtttgtgtg atgcactctc 300
atgaaaggaa agcaccagag tticagccat ggaattgaag atatggatgc attcgacttt 360
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acagaagtna ccaaatggga actacttgaa cagaaattaa ttccctccca tggnaaaata 480
gatctaaagg agctgtgaaa tcagctgcaa ctgaaa atg tct gac agc ttg gat 534
                                     Met Ser Asp Ser Leu Asp
                                     1           5
aac gaa gaa aaa ccc cca gct ccc cca ctg agg atg aac agt aac aac 582
Asn Glu Glu Lys Pro Pro Ala Pro Pro Leu Arg Met Asn Ser Asn Asn
                10                15                20
cga gac tct tca gca ctc aac cac agc tcc aaa cca ctg ccc atg gcc 630
Arg Asp Ser Ser Ala Leu Asn His Ser Ser Lys Pro Leu Pro Met Ala
                25                30                35
ccg gaa gag aag aat aag aaa gcc agg ctt cgc tct atc ttc cca gga 678
Pro Glu Glu Lys Asn Lys Lys Ala Arg Leu Arg Ser Ile Phe Pro Gly
                40                45                50
gga ggg gat aaa acc aat aag aag aaa gag aaa gag cgc cca gag atc 726
Gly Gly Asp Lys Thr Asn Lys Lys Lys Glu Lys Glu Arg Pro Glu Ile

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55	60	65	70	
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75	80	85		
gtc acc ggg gaa ttc act gga att cct gag caa tgg gca cga cta ctc	822			
Val Thr Gly Glu Phe Thr Gly Ile Pro Glu Gln Trp Ala Arg Leu Leu				
90	95	100		
caa acc tcc aac ata aca aag ctg gaa cag aag aag aac cca caa gct	870			
Gln Thr Ser Asn Ile Thr Lys Leu Glu Gln Lys Lys Asn Pro Gln Ala				
105	110	115		
gtt ctt gat gtt ctc aag ttc tac gac tcc aaa gaa acg gtc aac aac	918			
Val Leu Asp Val Leu Lys Phe Tyr Asp Ser Lys Glu Thr Val Asn Asn				
120	125	130		
cag aaa tat atg agc ttt acg tca gga gat aaa agt gcc cat gga tac	966			
Gln Lys Tyr Met Ser Phe Thr Ser Gly Asp Lys Ser Ala His Gly Tyr				
135	140	145	150	
ata gca gca cat cag tcg aat acc aaa aca ggt tcg gaa cct cct ttg	1014			
Ile Ala Ala His Gln Ser Asn Thr Lys Thr Gly Ser Glu Pro Pro Leu				
155	160	165		
gct cct cct gta tct gaa gaa gag gat gaa gaa gag gaa gag gaa gaa	1062			
Ala Pro Pro Val Ser Glu Glu Glu Asp Glu Glu Glu Glu Glu Glu Glu				
170	175	180		
gat gac aat gaa cct ccg cct gtc att gca cca aga cca gag cat aca	1110			
Asp Asp Asn Glu Pro Pro Pro Val Ile Ala Pro Arg Pro Glu His Thr				
185	190	195		
aaa tca atc tat act cgc tcc gtg gtt gag tca att gct tca cca gct	1158			
Lys Ser Ile Tyr Thr Arg Ser Val Val Glu Ser Ile Ala Ser Pro Ala				
200	205	210		
gca cca aat aaa gaa gat atc cca cct tct gct gag aat gcc aat tcc	1206			

1964/2644

1965/2644

520 525 530
 gca aag gaa gca att aag aac agt agc cgt tag aactgcaagc cttaccctc 2171
 Ala Lys Glu Ala Ile Lys Asn Ser Ser Arg
 535 540 545
 ncggctccca ggatgagtaa gactgaaata aaactctgct gctgcaggat ccacagaaga 2231
 agagacagtc aaatggagtg ggggcctctt aacttttaag tgaatagaaa cttcttataa 2291
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 cactccctct tcatagtgct gtgtttgttt ttaagttaga gagtagtccc tctttcattc 2531
 gnacctcttt caaaatccct tacccaacgt gatgtttttt cacttgcatt gtcattagat 2591
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 a
 2652

<210> 817

<211> 544

<212> PRT

<213> Mus musculus

<400> 817

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 Arg Met Asn Ser Asn Asn Arg Asp Ser Ser Ala Leu Asn His Ser Ser
 20 25 30
 Lys Pro Leu Pro Met Ala Pro Glu Glu Lys Asn Lys Lys Ala Arg Leu
 35 40 45
 Arg Ser Ile Phe Pro Gly Gly Gly Asp Lys Thr Asn Lys Lys Lys Glu
 50 55 60
 Lys Glu Arg Pro Glu Ile Ser Leu Pro Ser Asp Phe Glu His Thr Ile

65	70	75	80
His Val Gly Phe Asp Ala Val Thr Gly Glu Phe Thr Gly Ile Pro Glu			
85	90	95	
Gln Trp Ala Arg Leu Leu Gln Thr Ser Asn Ile Thr Lys Leu Glu Gln			
100	105	110	
Lys Lys Asn Pro Gln Ala Val Leu Asp Val Leu Lys Phe Tyr Asp Ser			
115	120	125	
Lys Glu Thr Val Asn Asn Gln Lys Tyr Met Ser Phe Thr Ser Gly Asp			
130	135	140	
Lys Ser Ala His Gly Tyr Ile Ala Ala His Gln Ser Asn Thr Lys Thr			
145	150	155	160
Gly Ser Glu Pro Pro Leu Ala Pro Pro Val Ser Glu Glu Glu Asp Glu			
165	170	175	
Glu Glu Glu Glu Glu Glu Asp Asp Asn Glu Pro Pro Pro Val Ile Ala			
180	185	190	
Pro Arg Pro Glu His Thr Lys Ser Ile Tyr Thr Arg Ser Val Val Glu			
195	200	205	
Ser Ile Ala Ser Pro Ala Ala Pro Asn Lys Glu Asp Ile Pro Pro Ser			
210	215	220	
Ala Glu Asn Ala Asn Ser Thr Thr Leu Tyr Arg Asn Thr Asp Arg Gln			
225	230	235	240
Arg Lys Lys Ser Lys Met Thr Asp Glu Glu Ile Leu Glu Lys Leu Arg			
245	250	255	
Ser Ile Val Ser Val Gly Asp Pro Lys Lys Lys Tyr Thr Arg Leu Glu			
260	265	270	
Lys Ile Gly Gln Gly Ala Ser Gly Thr Val Tyr Thr Ala Leu Asp Ile			
275	280	285	
Ala Thr Gly Gln Glu Val Ala Ile Lys Gln Met Asn Leu Gln Gln Gln			
290	295	300	

Pro Lys Lys Glu Leu Ile Ile Asn Glu Ile Leu Val Met Arg Glu Asn
 305 310 315 320
 Lys Asn Pro Asn Ile Val Asn Tyr Leu Asp Ser Tyr Leu Val Gly Asp
 325 330 335
 Glu Leu Trp Val Val Met Glu Tyr Leu Ala Gly Gly Ser Leu Thr Asp
 340 345 350
 Val Val Thr Glu Thr Cys Met Asp Val Gly Gln Ile Ala Ala Val Cys
 355 360 365
 Arg Glu Cys Leu Gln Ala Leu Asp Phe Leu His Ser Asn Gln Val Ile
 370 375 380
 His Arg Asp Ile Lys Ser Asp Asn Ile Leu Leu Gly Met Asp Gly Ser
 385 390 395 400
 Val Lys Leu Thr Asp Phe Gly Phe Cys Ala Gln Ile Thr Pro Glu Gln
 405 410 415
 Ser Lys Arg Ser Thr Met Val Gly Thr Pro Tyr Trp Met Ala Pro Glu
 420 425 430
 Val Val Thr Arg Lys Ala Tyr Gly Pro Lys Val Asp Ile Trp Ser Leu
 435 440 445
 Gly Ile Met Ala Ile Glu Met Val Glu Gly Glu Pro Pro Tyr Leu Asn
 450 455 460
 Glu Asn Pro Leu Arg Ala Leu Tyr Leu Ile Ala Thr Asn Gly Thr Pro
 465 470 475 480
 Glu Leu Gln Asn Pro Glu Arg Leu Ser Ala Val Phe His Asp Phe Leu
 485 490 495
 Asn Arg Cys Leu Glu Met Asp Val Asp Arg Arg Gly Ser Ala Lys Glu
 500 505 510
 Leu Leu Gln His Pro Phe Leu Lys Leu Ala Lys Pro Leu Ser Ser Leu
 515 520 525
 Thr Pro Leu Ile Ile Ala Ala Lys Glu Ala Ile Lys Asn Ser Ser Arg

530

535

540

<210> 818

<211> 2504

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (358).. (2040)

<400> 818

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gacgcccagg cccgccttac tcctcctcct gcttggccaa gctgcctcct atttgaaag 180
ttttgtgggt tttctttctc ttcctccaac tttgggggga ggcatctatc tcctcaagcg 240
ctacagcttg gggtgacctt ctgacttga ggccgggaac catggtgtgg ggcagccatc 300
gctgaagtca gcgaacaga gcctggcctg aagcaggcga cgctggaggc cagagcc 357
atg gcc att gcc acg tcg gcc cag ctt gcc cgg gca ttg tat gac aac 405
Met Ala Ile Ala Thr Ser Ala Gln Leu Ala Arg Ala Leu Tyr Asp Asn
      1           5           10           15
act gct gag tcc ccc cag gaa ctg tcc ttc cgc cga ggg gat gtt cta 453
Thr Ala Glu Ser Pro Gln Glu Leu Ser Phe Arg Arg Gly Asp Val Leu
           20           25           30
cgg gta ctg cag agg gag ggt gct ggt gga ctt gat ggt tgg tgc ctc 501
Arg Val Leu Gln Arg Glu Gly Ala Gly Gly Leu Asp Gly Trp Cys Leu
           35           40           45
tgc tct ctg cat ggc cag cag ggt att gtc cct gct aac aga gtg aag 549
Cys Ser Leu His Gly Gln Gln Gly Ile Val Pro Ala Asn Arg Val Lys

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Leu Leu Pro Ala Gly Pro Ala Pro Lys Pro Ser Leu Cys Pro Ala Ser			
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ccc acc cag cct ggc tca tca tgt ccc acc cca gag cgt ggc tgt gag	645		
Pro Thr Gln Pro Gly Ser Ser Cys Pro Thr Pro Glu Arg Gly Cys Glu			
85	90	95	
gag cag gag gtg tat gta ata cca cca cca gct cga ccc tgc tct gcc	693		
Glu Gln Glu Val Tyr Val Ile Pro Pro Pro Ala Arg Pro Cys Ser Ala			
100	105	110	
tgc gga ctt cca gct aga tcc tgc tca ccc tct tct gac tcc atc tac	741		
Ser Gly Leu Pro Ala Arg Ser Cys Ser Pro Ser Ser Asp Ser Ile Tyr			
115	120	125	
aag gtc ccc cga gtc aat ggg atg cag ctg act gcc tcc aga gac gtg	789		
Lys Val Pro Arg Val Asn Gly Met Gln Leu Thr Ala Ser Arg Asp Val			
130	135	140	
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Ala Glu Val Tyr Asp Val Pro Pro Asn Ile Leu Arg Ala Pro Ser Ser			
145	150	155	160
tgt ccc tat gac tcc cca gcc tcc ttt tcc tgt cct gtg gcc cca gtt	885		
Cys Pro Tyr Asp Ser Pro Ala Ser Phe Ser Cys Pro Val Ala Pro Val			
165	170	175	
gtc cca cag ccc ccc aga gag gat gaa gcg ccc tac gat gtg cct ctg	933		
Val Pro Gln Pro Pro Arg Glu Asp Glu Ala Pro Tyr Asp Val Pro Leu			
180	185	190	
gcc tta aag cca cct gca gag ctg gag cgg gat ccg gag tgg gaa ggg	981		
Ala Leu Lys Pro Pro Ala Glu Leu Glu Arg Asp Pro Glu Trp Glu Gly			
195	200	205	
ggc cgg gag cca ggg cct cct ctt tac gct gcc cct tcc aac ctg aaa	1029		

Gly Arg Glu Pro Gly Pro Pro Leu Tyr Ala Ala Pro Ser Asn Leu Lys
 210 215 220
 cgg gcc tcg gct ctg ctc aac ctg tac gaa gca ccc gag gaa ctc ctg 1077
 Arg Ala Ser Ala Leu Leu Asn Leu Tyr Glu Ala Pro Glu Glu Leu Leu
 225 230 235 240
 gca aat gga gaa agc agg gat gca gat gaa ggc att tac gat gtg cct 1125
 Ala Asn Gly Glu Ser Arg Asp Ala Asp Glu Gly Ile Tyr Asp Val Pro
 245 250 255
 ctg ctg ggg cca gag cca ccg tcc cca gag cct cca gtg gct tct tcc 1173
 Leu Leu Gly Pro Glu Pro Pro Ser Pro Glu Pro Pro Val Ala Ser Ser
 260 265 270
 tcc act gac ctg gac act gtg gcc cag ctt ccg acc aga agc tcc cca 1221
 Ser Thr Asp Leu Asp Thr Val Ala Gln Leu Pro Thr Arg Ser Ser Pro
 275 280 285
 ccc caa cac agg ccc agg cta cca tcc act gag agc ctg tcc cgc cgc 1269
 Pro Gln His Arg Pro Arg Leu Pro Ser Thr Glu Ser Leu Ser Arg Arg
 290 295 300
 cct ctg cct gcc ctc cct gtc tct gag gct cct gct cct tct cca gct 1317
 Pro Leu Pro Ala Leu Pro Val Ser Glu Ala Pro Ala Pro Ser Pro Ala
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 Pro Ser Pro Ala Pro Gly Arg Lys Gly Ser Ile Gln Asp Arg Pro Leu
 325 330 335
 ccc cct ccc cca ccc tgc ctg cct ggt tat ggg ggc ctc aaa ccc gag 1413
 Pro Pro Pro Pro Pro Cys Leu Pro Gly Tyr Gly Gly Leu Lys Pro Glu
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 Gly Asp Pro Glu Cys Arg Glu Val Ala Asn Asp Pro Ala Gly Pro His
 355 360 365

aat gaa tat gaa ggc atc cca atg gcc gag gaa tat gac tac gtg cat	1509
Asn Glu Tyr Glu Gly Ile Pro Met Ala Glu Glu Tyr Asp Tyr Val His	
370 375 380	
ctg aag ggt gtg gat aca gct cag ggt tct aga ccc ctg gat aaa gct	1557
Leu Lys Gly Val Asp Thr Ala Gln Gly Ser Arg Pro Leu Asp Lys Ala	
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ttc cca gtg gat cct gaa ttg ctg gag agg gga ctg gcg gaa cgg aag	1605
Phe Pro Val Asp Pro Glu Leu Leu Glu Arg Gly Leu Ala Glu Arg Lys	
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gaa gct ctg tcc cca gag gag cca ctg gtc ctg tcc act gga gac ctc	1653
Glu Ala Leu Ser Pro Glu Glu Pro Leu Val Leu Ser Thr Gly Asp Leu	
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Gln Leu Leu His Phe Tyr Ala Gly Gln Cys Gln Ser His Tyr Ser Ala	
435 440 445	
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Leu Gln Ala Ala Val Ala Ala Leu Val Ala Ser Thr Gln Ala Asn Gln	
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cca cca tgt ctc ttt gtg ccc cac ggc aaa aga gtg gtg gtg gct gct	1797
Pro Pro Cys Leu Phe Val Pro His Gly Lys Arg Val Val Val Ala Ala	
465 470 475 480	
cac cgc ctg gtg ttt gtt gga gac acc cta ggc cgg ctg gca gcc tct	1845
His Arg Leu Val Phe Val Gly Asp Thr Leu Gly Arg Leu Ala Ala Ser	
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gca gct ctc aga gca cag gtg ggg gct gca ggc aca atg ctg gcc caa	1893
Ala Ala Leu Arg Ala Gln Val Gly Ala Ala Gly Thr Met Leu Ala Gln	
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act ctg cgg gcc act gig ctt gct gtc aag ggg gct gcc tta ggc tac	1941
Thr Leu Arg Ala Thr Val Leu Ala Val Lys Gly Ala Ala Leu Gly Tyr	

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 Pro Ser Asp Thr Ala Val Gln Glu Met Ala Arg Cys Val Ala Glu Leu
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 gca ggg cag gcc cta cgc ttt acc acc cta ctc gct ggt ctg ctc ccc 2037
 Ala Gly Gln Ala Leu Arg Phe Thr Thr Leu Leu Ala Gly Leu Leu Pro
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<212> PRT

<213> Mus musculus

<400> 819

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 Val Pro Gln Pro Pro Arg Glu Asp Glu Ala Pro Tyr Asp Val Pro Leu
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 Ala Leu Lys Pro Pro Ala Glu Leu Glu Arg Asp Pro Glu Trp Glu Gly
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 Gly Arg Glu Pro Gly Pro Pro Leu Tyr Ala Ala Pro Ser Asn Leu Lys
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 Arg Ala Ser Ala Leu Leu Asn Leu Tyr Glu Ala Pro Glu Glu Leu Leu
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Gly Asp Pro Glu Cys Arg Glu Val Ala Asn Asp Pro Ala Gly Pro His		
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Asn Glu Tyr Glu Gly Ile Pro Met Ala Glu Glu Tyr Asp Tyr Val His		
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Leu Lys Gly Val Asp Thr Ala Gln Gly Ser Arg Pro Leu Asp Lys Ala		
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Phe Pro Val Asp Pro Glu Leu Leu Glu Arg Gly Leu Ala Glu Arg Lys		
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Glu Ala Leu Ser Pro Glu Glu Pro Leu Val Leu Ser Thr Gly Asp Leu		
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Gln Leu Leu His Phe Tyr Ala Gly Gln Cys Gln Ser His Tyr Ser Ala		
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Leu Gln Ala Ala Val Ala Ala Leu Val Ala Ser Thr Gln Ala Asn Gln		
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Pro Pro Cys Leu Phe Val Pro His Gly Lys Arg Val Val Val Ala Ala		
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His Arg Leu Val Phe Val Gly Asp Thr Leu Gly Arg Leu Ala Ala Ser		
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Ala Ala Leu Arg Ala Gln Val Gly Ala Ala Gly Thr Met Leu Ala Gln		
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Thr Leu Arg Ala Thr Val Leu Ala Val Lys Gly Ala Ala Leu Gly Tyr
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<213> Mus musculus

<220>

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<400> 820

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10

gcc tcc cag aca ggg gta cct ctc acc aac ctc tcc eac aac tgc agc 639
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 gcc gac ggc tac att tac cag gac tcc atc gcc ctg ccc tgg aaa gtc 687
 Ala Asp Gly Tyr Ile Tyr Gln Asp Ser Ile Ala Leu Pro Trp Lys Val
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 ctg ctg gtt gct ttg ttg gcg ctc atc acc ttg gcc acc acg ctc tcc 735
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Glu Met Leu Asp Cys Phe Val Asn Thr Asp His Val Leu Tyr Thr Val			
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Tyr Ser Thr Val Gly Ala Phe Tyr Leu Pro Thr Leu Leu Leu Ile Ala			
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Leu Tyr Gly Arg Ile Tyr Val Glu Ala Arg Ser Arg Ile Leu Lys Gln			
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Thr Pro Asn Lys Thr Gly Lys Arg Leu Thr Arg Ala Gln Leu Ile Thr			
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gac tcc ccg gga tcc aca tcc tcg gtc acc tcc att aac tcc cgg gct			1359
Asp Ser Pro Gly Ser Thr Ser Ser Val Thr Ser Ile Asn Ser Arg Ala			
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Pro Asp Val Pro Ser Glu Ser Gly Ser Pro Val Tyr Val Asn Gln Val			
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Lys Val Arg Val Ser Asp Ala Leu Leu Glu Lys Lys Lys Leu Met Ala			
290	295	300	
gct agg gag cgc aaa gcc acc aag acc cta ggg atc att tta gga gca			1503
Ala Arg Glu Arg Lys Ala Thr Lys Thr Leu Gly Ile Ile Leu Gly Ala			
305	310	315	
ttt att gtg tgt tgg ctg ccc ttc ttc atc atc tcc ctg gtg atg cct			1551

Phe Ile Val Cys Trp Leu Pro Phe Phe Ile Ile Ser Leu Val Met Pro
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<211> 386

<212> PRT

<213> Mus musculus

<400> 821

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210 215 220
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 Val Cys Trp Leu Pro Phe Phe Ile Ile Ser Leu Val Met Pro Ile Cys
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<211> 7608

<212> DNA

<213> Mus musculus

<400> 822

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<211> 1347

<212> DNA

<213> Mus musculus

<220>

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<222> (217).. (1089)

<400> 823

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 taacagtaga ttctagctac agatagctga ctctgggaca cctacaagaa ttgttgtaat 180
 gtttgtctgc ttccattctg ttgccttag gggacc atg gac atc gaa gca tac 234

Met Asp Ile Glu Ala Tyr

ttt gaa agg att ggt tac aag aac tca gtg aat aaa ttg gac tta gcc	282
Phe Glu Arg Ile Gly Tyr Lys Asn Ser Val Asn Lys Leu Asp Leu Ala	
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aca tta act gaa gtt ctt cag cac cag atg cga gca gtt cct ttt gag	330
Thr Leu Thr Glu Val Leu Gln His Gln Met Arg Ala Val Pro Phe Glu	
25 30 35	
aat ctt aac atg cat tgt gga gaa gcc atg cat ctg gat tta cag gac	378
Asn Leu Asn Met His Cys Gly Glu Ala Met His Leu Asp Leu Gln Asp	
40 45 50	
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Ile Phe Asp His Ile Val Arg Lys Lys Arg Gly Gly Trp Cys Leu Gln	
55 60 65 70	
gtt aat cat ctg ctg tac tgg gct ctg acc aaa atg ggc ttt gaa acc	474
Val Asn His Leu Leu Tyr Trp Ala Leu Thr Lys Met Gly Phe Glu Thr	
75 80 85	
aca atg ttg gga gga tat gtt tac ata act cca gtc agc aaa tat agc	522
Thr Met Leu Gly Gly Tyr Val Tyr Ile Thr Pro Val Ser Lys Tyr Ser	
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agt gaa atg gtc cac ctt cta gta cag gtg acc atc agt gac agg aag	570
Ser Glu Met Val His Leu Leu Val Gln Val Thr Ile Ser Asp Arg Lys	
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Tyr Ile Val Asp Ser Ala Tyr Gly Gly Ser Tyr Gln Met Trp Glu Pro	
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Leu Glu Leu Thr Ser Gly Lys Asp Gln Pro Gln Val Pro Ala Ile Phe	
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Leu Leu Thr Glu Glu Asn Gly Thr Trp Tyr Leu Asp Gln Ile Arg Arg	

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gag cag tat gtt cca aat gaa gaa ttt gtt aac tca gac ctc ctt gaa			762
Glu Gln Tyr Val Pro Asn Glu Glu Phe Val Asn Ser Asp Leu Leu Glu			
170	175	180	
aag aac aaa tat cga aaa atc tac tcc ttt act ctt gag ccc cga gtt			810
Lys Asn Lys Tyr Arg Lys Ile Tyr Ser Phe Thr Leu Glu Pro Arg Val			
185	190	195	
atc gag gat ttt gaa tat gtg aat agc tat ctt cag aca tcg cca gca			858
Ile Glu Asp Phe Glu Tyr Val Asn Ser Tyr Leu Gln Thr Ser Pro Ala			
200	205	210	
tct gtg ttt gta agc aca tcg ttc tgt tcc ttg cag acc tcg gaa ggg			906
Ser Val Phe Val Ser Thr Ser Phe Cys Ser Leu Gln Thr Ser Glu Gly			
215	220	225	230
gtt cac tgt tta gtg ggc tcc acc ttt aca agt agg aga ttc agc tat			954
Val His Cys Leu Val Gly Ser Thr Phe Thr Ser Arg Arg Phe Ser Tyr			
235	240	245	
aag gac gat gta gat ctg gtt gag ttt aaa tat gtg aat gag gaa gaa			1002
Lys Asp Asp Val Asp Leu Val Glu Phe Lys Tyr Val Asn Glu Glu Glu			
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ata gaa gat gta ctg aaa acc gca ttt ggc att tct ttg gag aga aag			1050
Ile Glu Asp Val Leu Lys Thr Ala Phe Gly Ile Ser Leu Glu Arg Lys			
265	270	275	
ttt gtg ccc aaa cat ggt gaa cta gtt ttt act att tag ggtaaggagc			1099
Phe Val Pro Lys His Gly Glu Leu Val Phe Thr Ile			
280	285	290	
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cctagatctt ataaaacgaa atcctactcc tcctgtcatt tcaccaataa aaatagcgtc			1279
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tcaacaaa

1347

<210> 824

<211> 290

<212> PRT

<213> Mus musculus

<400> 824

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20 25 30

Arg Ala Val Pro Phe Glu Asn Leu Asn Met His Cys Gly Glu Ala Met

35 40 45

His Leu Asp Leu Gln Asp Ile Phe Asp His Ile Val Arg Lys Lys Arg

50 55 60

Gly Gly Trp Cys Leu Gln Val Asn His Leu Leu Tyr Trp Ala Leu Thr

65 70 75 80

Lys Met Gly Phe Glu Thr Thr Met Leu Gly Gly Tyr Val Tyr Ile Thr

85 90 95

Pro Val Ser Lys Tyr Ser Ser Glu Met Val His Leu Leu Val Gln Val

100 105 110

Thr Ile Ser Asp Arg Lys Tyr Ile Val Asp Ser Ala Tyr Gly Gly Ser

115 120 125

Tyr Gln Met Trp Glu Pro Leu Glu Leu Thr Ser Gly Lys Asp Gln Pro

130 135 140

Gln Val Pro Ala Ile Phe Leu Leu Thr Glu Glu Asn Gly Thr Trp Tyr

145 150 155 160

Leu Asp Gln Ile Arg Arg Glu Gln Tyr Val Pro Asn Glu Glu Phe Val

	165		170		175
Asn Ser Asp Leu Leu Glu Lys Asn Lys Tyr Arg Lys Ile Tyr Ser Phe					
	180		185		190
Thr Leu Glu Pro Arg Val Ile Glu Asp Phe Glu Tyr Val Asn Ser Tyr					
	195		200		205
Leu Gln Thr Ser Pro Ala Ser Val Phe Val Ser Thr Ser Phe Cys Ser					
	210		215		220
Leu Gln Thr Ser Glu Gly Val His Cys Leu Val Gly Ser Thr Phe Thr					
225		230		235	240
Ser Arg Arg Phe Ser Tyr Lys Asp Asp Val Asp Leu Val Glu Phe Lys					
	245		250		255
Tyr Val Asn Glu Glu Glu Ile Glu Asp Val Leu Lys Thr Ala Phe Gly					
	260		265		270
Ile Ser Leu Glu Arg Lys Phe Val Pro Lys His Gly Glu Leu Val Phe					
	275		280		285
Thr Ile					
290					

<210> 825

<211> 4127

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<222> (416).. (2806)

<400> 825

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 gaccaatcag atgggtggag catgttatag gaattggcag caggtatcca atgggtgaag 240
 aagaagctga ctgcggaggt gaccaaccct ggcgatgatgt cctcagtgag tgaagataatt 300
 ccattccaga ggaggtctac ttgacacatc tgggaggccg ccatccgaaa gaaagccact 360
 ctgttgggtgt agggagtgc agctgcattc tccgtgcct actgcataac caaaa atg 418

Met

1

aag gag aac tac tgt tta caa gct gcc ctg gtg tgc ctg agc atg cta 466
 Lys Glu Asn Tyr Cys Leu Gln Ala Ala Leu Val Cys Leu Ser Met Leu

5

10

15

tac cac agc cag gcg ttt gct ctg gag cga cga agc cac ctg cat ccc 514
 Tyr His Ser Gln Ala Phe Ala Leu Glu Arg Arg Ser His Leu His Pro

20

25

30

tct ttc cat gga cac cat gag aag ggc aag gag ggg cag gtg ctg caa 562
 Ser Phe His Gly His His Glu Lys Gly Lys Glu Gly Gln Val Leu Gln

35

40

45

cgc tcc aag aga ggc tgg gtc tgg aac cag ttc ttt gtg ata gaa gag 610
 Arg Ser Lys Arg Gly Trp Val Trp Asn Gln Phe Phe Val Ile Glu Glu

50

55

60

65

tac acc ggg cct gac cct gtg ctg gtg ggc agg ctt cat tct gac att 658
 Tyr Thr Gly Pro Asp Pro Val Leu Val Gly Arg Leu His Ser Asp Ile

70

75

80

gac tcc ggt gat ggg aac att aaa tac att ctc tca ggt gaa gga gcg 706
 Asp Ser Gly Asp Gly Asn Ile Lys Tyr Ile Leu Ser Gly Glu Gly Ala

85

90

95

gga acc att ttt gtg att gat gac aaa tca ggg aac att cat gcc acc 754
 Gly Thr Ile Phe Val Ile Asp Asp Lys Ser Gly Asn Ile His Ala Thr

100

105

110

aag aca ttg gac cga gag gag aga gcc cag tac aca ctg atg gct cag	802
Lys Thr Leu Asp Arg Glu Glu Arg Ala Gln Tyr Thr Leu Met Ala Gln	
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Ala Val Asp Arg Asp Thr Asn Arg Pro Leu Glu Pro Pro Ser Glu Phe	
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Ile Val Lys Val Gln Asp Ile Asn Asp Asn Pro Pro Glu Phe Leu His	
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gaa atc tat cat gcc aat gtg cct gag agg tcc aat gtg gga aca tca	946
Glu Ile Tyr His Ala Asn Val Pro Glu Arg Ser Asn Val Gly Thr Ser	
165 170 175	
gtt atc caa gtg aca gcc tct gat gca gat gat ccc acc tat gga aat	994
Val Ile Gln Val Thr Ala Ser Asp Ala Asp Asp Pro Thr Tyr Gly Asn	
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Ser Ala Lys Leu Val Tyr Ser Ile Leu Glu Gly Gln Pro Tyr Phe Ser	
195 200 205	
gtg gag gcc caa aca ggt atc atc agg aca gcc ctt ccc aat atg gac	1090
Val Glu Ala Gln Thr Gly Ile Ile Arg Thr Ala Leu Pro Asn Met Asp	
210 215 220 225	
aga gaa gcc aag gag gag tac cac gtg gtg atc cag gcc aag gac atg	1138
Arg Glu Ala Lys Glu Glu Tyr His Val Val Ile Gln Ala Lys Asp Met	
230 235 240	
ggt gga cac atg ggt gga ctc tca ggg aca acc aaa gtg acg atc act	1186
Gly Gly His Met Gly Gly Leu Ser Gly Thr Thr Lys Val Thr Ile Thr	
245 250 255	
ctg act gat gtc aac gac aac cca cca aag ttt cca cag agc gtg tac	1234
Leu Thr Asp Val Asn Asp Asn Pro Pro Lys Phe Pro Gln Ser Val Tyr	

260	265	270	
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Gln Met Ser Val Ser Glu Ala Ala Val Pro Gly Glu Glu Val Gly Arg			
275	280	285	
gtg aag gct aaa gac cca gac att gga gaa aat ggc tta gtc aca tac	1330		
Val Lys Ala Lys Asp Pro Asp Ile Gly Glu Asn Gly Leu Val Thr Tyr			
290	295	300	305
aat atc gtt gat gga gac ggc ata gaa ctg ttt gaa att aca aca gac	1378		
Asn Ile Val Asp Gly Asp Gly Ile Glu Leu Phe Glu Ile Thr Thr Asp			
310	315	320	
tat gaa aca cag gat ggt gtg gtg aag ctg aaa aag cct gta gat ttt	1426		
Tyr Glu Thr Gln Asp Gly Val Val Lys Leu Lys Lys Pro Val Asp Phe			
325	330	335	
gaa acc aaa aga gct tat agc ttg aag ata gag gcc gcc aat gtt cac	1474		
Glu Thr Lys Arg Ala Tyr Ser Leu Lys Ile Glu Ala Ala Asn Val His			
340	345	350	
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Ile Asp Pro Lys Phe Ile Ser Asn Gly Pro Phe Lys Asp Thr Val Thr			
355	360	365	
gtc aag att tca gta gaa gat gcc gat gag cct ccc atg ttc ttg gcc	1570		
Val Lys Ile Ser Val Glu Asp Ala Asp Glu Pro Pro Met Phe Leu Ala			
370	375	380	385
cca agt tat atc cat gaa gtt caa gaa aat gca gct gct ggc act gtg	1618		
Pro Ser Tyr Ile His Glu Val Gln Glu Asn Ala Ala Ala Gly Thr Val			
390	395	400	
gtt ggg aga gta cat gcc aaa gac cca gat gct gcc aac agc cca ata	1666		
Val Gly Arg Val His Ala Lys Asp Pro Asp Ala Ala Asn Ser Pro Ile			
405	410	415	
agg tat tca att gat cgt cat act gac ctc gac agg ttt ttc acg att	1714		

Arg Tyr Ser Ile Asp Arg His Thr Asp Leu Asp Arg Phe Phe Thr Ile	
420	425
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Asn Pro Glu Asp Gly Phe Ile Lys Thr Thr Lys Pro Leu Asp Arg Glu	
435	440
445	
gaa act gcc tgg ctc aac atc tct gtc ttc gca gca gat att cac aac	1810
Glu Thr Ala Trp Leu Asn Ile Ser Val Phe Ala Ala Asp Ile His Asn	
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Arg His Gln Glu Thr Lys Val Pro Val Ala Ile Arg Val Leu Asp Val	
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Asn Asp Asn Ala Pro Lys Phe Ala Ala Pro Tyr Glu Gly Phe Ile Cys	
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Glu Ser Asp His Pro Lys Ala Leu Ser Asn Gln Pro Ile Val Thr Val	
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Ser Ala Asp Asp Gln Asp Asp Thr Ala Asn Gly Pro Arg Phe Ile Phe	
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Asn Arg Asp Asn Thr Ala Gly Val Tyr Ala Arg Arg Gly Gly Phe Ser	
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Arg Gln Lys Gln Asp Phe Tyr Leu Leu Pro Ile Val Ile Ser Asp Gly	
565	570
575	

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 Ile Leu Asn Ala Gly Leu Ser Thr Gly Ala Leu Ile Ala Ile Leu Ala
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 660 665 670
 gaa gcc ttc gac ata gcc acc ctg cag aat cct gac ggc atc aat gga 2482
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Ser Leu Ser Ser Leu Glu Ser Ala Thr Thr Asp Ser Asp Leu Asp Tyr			
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Asp Tyr Leu Gln Asn Trp Gly Pro Arg Phe Lys Lys Leu Ala Asp Leu			
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Tyr Gly Ser Lys Asp Thr Phe Asp Asp Asp Ser			
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<211> 796

<212> PRT

<213> Mus musculus

<400> 826

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Pro	Ser	Phe	His	Gly	His	His	Glu	Lys	Gly	Lys	Glu	Gly	Gln	Val	Leu
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Ala	Gly	Thr	Ile	Phe	Val	Ile	Asp	Asp	Lys	Ser	Gly	Asn	Ile	His	Ala
				100					105					110	
Thr	Lys	Thr	Leu	Asp	Arg	Glu	Glu	Arg	Ala	Gln	Tyr	Thr	Leu	Met	Ala
				115					120					125	

Gln Ala Val Asp Arg Asp Thr Asn Arg Pro Leu Glu Pro Pro Ser Glu
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 Phe Ile Val Lys Val Gln Asp Ile Asn Asp Asn Pro Pro Glu Phe Leu
 145 150 155 160
 His Glu Ile Tyr His Ala Asn Val Pro Glu Arg Ser Asn Val Gly Thr
 165 170 175
 Ser Val Ile Gln Val Thr Ala Ser Asp Ala Asp Asp Pro Thr Tyr Gly
 180 185 190
 Asn Ser Ala Lys Leu Val Tyr Ser Ile Leu Glu Gly Gln Pro Tyr Phe
 195 200 205
 Ser Val Glu Ala Gln Thr Gly Ile Ile Arg Thr Ala Leu Pro Asn Met
 210 215 220
 Asp Arg Glu Ala Lys Glu Glu Tyr His Val Val Ile Gln Ala Lys Asp
 225 230 235 240
 Met Gly Gly His Met Gly Gly Leu Ser Gly Thr Thr Lys Val Thr Ile
 245 250 255
 Thr Leu Thr Asp Val Asn Asp Asn Pro Pro Lys Phe Pro Gln Ser Val
 260 265 270
 Tyr Gln Met Ser Val Ser Glu Ala Ala Val Pro Gly Glu Glu Val Gly
 275 280 285
 Arg Val Lys Ala Lys Asp Pro Asp Ile Gly Glu Asn Gly Leu Val Thr
 290 295 300
 Tyr Asn Ile Val Asp Gly Asp Gly Ile Glu Leu Phe Glu Ile Thr Thr
 305 310 315 320
 Asp Tyr Glu Thr Gln Asp Gly Val Val Lys Leu Lys Lys Pro Val Asp
 325 330 335
 Phe Glu Thr Lys Arg Ala Tyr Ser Leu Lys Ile Glu Ala Ala Asn Val
 340 345 350
 His Ile Asp Pro Lys Phe Ile Ser Asn Gly Pro Phe Lys Asp Thr Val

355	360	365
Thr Val Lys Ile Ser Val Glu Asp Ala Asp Glu Pro Pro Met Phe Leu		
370	375	380
Ala Pro Ser Tyr Ile His Glu Val Gln Glu Asn Ala Ala Ala Gly Thr		
385	390	395
Val Val Gly Arg Val His Ala Lys Asp Pro Asp Ala Ala Asn Ser Pro		
405	410	415
Ile Arg Tyr Ser Ile Asp Arg His Thr Asp Leu Asp Arg Phe Phe Thr		
420	425	430
Ile Asn Pro Glu Asp Gly Phe Ile Lys Thr Thr Lys Pro Leu Asp Arg		
435	440	445
Glu Glu Thr Ala Trp Leu Asn Ile Ser Val Phe Ala Ala Asp Ile His		
450	455	460
Asn Arg His Gln Glu Thr Lys Val Pro Val Ala Ile Arg Val Leu Asp		
465	470	475
Val Asn Asp Asn Ala Pro Lys Phe Ala Ala Pro Tyr Glu Gly Phe Ile		
485	490	495
Cys Glu Ser Asp His Pro Lys Ala Leu Ser Asn Gln Pro Ile Val Thr		
500	505	510
Val Ser Ala Asp Asp Gln Asp Asp Thr Ala Asn Gly Pro Arg Phe Ile		
515	520	525
Phe Ser Leu Pro Pro Glu Ile Met His Asn Pro Asn Phe Thr Val Arg		
530	535	540
Asp Asn Arg Asp Asn Thr Ala Gly Val Tyr Ala Arg Arg Gly Gly Phe		
545	550	555
Ser Arg Gln Lys Gln Asp Phe Tyr Leu Leu Pro Ile Val Ile Ser Asp		
565	570	575
Gly Gly Ile Pro Pro Met Ser Ser Thr Asn Thr Leu Thr Ile Lys Val		
580	585	590

Cys Gly Cys Asp Val Asn Gly Ala Leu Leu Ser Cys Asn Ala Glu Ala
 595 600 605
 Tyr Ile Leu Asn Ala Gly Leu Ser Thr Gly Ala Leu Ile Ala Ile Leu
 610 615 620
 Ala Cys Ile Val Ile Leu Leu Val Ile Val Val Leu Phe Val Thr Leu
 625 630 635 640
 Arg Arg Gln Lys Lys Glu Pro Leu Ile Val Phe Glu Glu Glu Asp Val
 645 650 655
 Arg Glu Asn Ile Ile Thr Tyr Asp Asp Glu Gly Gly Gly Glu Glu Asp
 660 665 670
 Thr Glu Ala Phe Asp Ile Ala Thr Leu Gln Asn Pro Asp Gly Ile Asn
 675 680 685
 Gly Phe Ile Pro Arg Lys Asp Ile Lys Pro Glu Tyr Gln Tyr Met Pro
 690 695 700
 Arg Pro Gly Leu Arg Pro Ala Pro Asn Ser Val Asp Val Asp Asp Phe
 705 710 715 720
 Ile Asn Thr Arg Ile Gln Glu Ala Asp Asn Asp Pro Thr Ala Pro Pro
 725 730 735
 Tyr Asp Ser Ile Gln Ile Tyr Gly Tyr Glu Gly Arg Gly Ser Met Ala
 740 745 750
 Gly Ser Leu Ser Ser Leu Glu Ser Ala Thr Thr Asp Ser Asp Leu Asp
 755 760 765
 Tyr Asp Tyr Leu Gln Asn Trp Gly Pro Arg Phe Lys Lys Leu Ala Asp
 770 775 780
 Leu Tyr Gly Ser Lys Asp Thr Phe Asp Asp Asp Ser
 785 790 795

<210> 827

<211> 1657

<212> DNA

<213>- Mus musculus

<220>

<221> CDS

<222> (103).. (903)

<400> 827

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                                     Met Gly Ala Gly
                                     1
tgt gtc aaa gtc acc aag tat ttc ctc ttc ctc ttc aac ttg ctg ttc      162
Cys Val Lys Val Thr Lys Tyr Phe Leu Phe Leu Phe Asn Leu Leu Phe
  5              10              15              20
ttt atc ctg ggt gct gtg atc ctg ggc ttc ggg gtg tgg att ctt gca      210
Phe Ile Leu Gly Ala Val Ile Leu Gly Phe Gly Val Trp Ile Leu Ala
          25              30              35
gac aag aac agc ttc att tcc gtc cta caa acc tca tcc agc tcg ctg      258
Asp Lys Asn Ser Phe Ile Ser Val Leu Gln Thr Ser Ser Ser Ser Leu
          40              45              50
cag gtg ggg gct tac gtc ttc atc ggt gtg ggc gcc atc acc ata gtg      306
Gln Val Gly Ala Tyr Val Phe Ile Gly Val Gly Ala Ile Thr Ile Val
          55              60              65
atg ggc ttc ctg ggc tgt atc ggt gct gtc aat gag gtc cgc tgc ttg      354
Met Gly Phe Leu Gly Cys Ile Gly Ala Val Asn Glu Val Arg Cys Leu
          70              75              80
ctg ggt ctg tac ttt gtc ttc ctt ctg ctg atc ctc atc gca cag gtg      402
Leu Gly Leu Tyr Phe Val Phe Leu Leu Leu Ile Leu Ile Ala Gln Val

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85	90	95	100	
acc gta ggg gtc ctc ttc tac ttc aac gct gac aag ctg aag aag gag				450
Thr Val Gly Val Leu Phe Tyr Phe Asn Ala Asp Lys Leu Lys Lys Glu				
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atg ggg aac aca gtg atg gac atc att cgc aac tac act gcc aat gcc				498
Met Gly Asn Thr Val Met Asp Ile Ile Arg Asn Tyr Thr Ala Asn Ala				
	120	125	130	
acc agt agc cgc gag gag gcc tgg gac tac gtg cag gcg cag gtc aag				546
Thr Ser Ser Arg Glu Glu Ala Trp Asp Tyr Val Gln Ala Gln Val Lys				
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tgc tgt ggc tgg gtc agc cac tac aac tgg aca gag aac gag gag ctc				594
Cys Cys Gly Trp Val Ser His Tyr Asn Trp Thr Glu Asn Glu Glu Leu				
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atg ggc ttt acc aag acc act tac cca tgc tcc tgc gag aag atc aag				642
Met Gly Phe Thr Lys Thr Thr Tyr Pro Cys Ser Cys Glu Lys Ile Lys				
	165	170	175	180
gaa gag gac aac cag ctc att gtg aag aaa gga ttc tgt gag gct gat				690
Glu Glu Asp Asn Gln Leu Ile Val Lys Lys Gly Phe Cys Glu Ala Asp				
	185	190	195	
aac agc act gtg agc gaa aac aac cct gag gat tgg cct gtg aac act				738
Asn Ser Thr Val Ser Glu Asn Asn Pro Glu Asp Trp Pro Val Asn Thr				
	200	205	210	
gag ggc tgc atg gag aag gcg cag gcg tgg ctt cag gag aac ttc ggc				786
Glu Gly Cys Met Glu Lys Ala Gln Ala Trp Leu Gln Glu Asn Phe Gly				
	215	220	225	
atc ctt ctg ggc gtg tgt gct ggt gtt gct gtc att gag ctg ctg ggg				834
Ile Leu Leu Gly Val Cys Ala Gly Val Ala Val Ile Glu Leu Leu Gly				
	230	235	240	
ttg ttc ctg tcc ata tgt ttg tgc cgg tac att cat tct gaa gac tac				882

Leu Phe Leu Ser Ile Cys Leu Cys Arg Tyr Ile His Ser Glu Asp Tyr
 245 250 255 260
 agc aag gtc ccc aag tac tga gggtgctgat gtccccaccg tcctatttct 933

Ser Lys Val Pro Lys Tyr

265

ccaccctcag cctcccatgg ggcctctcta gctttttctc acatgggccc tgctccatcc 993
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<210> 828

<211> 266

<212> PRT

<213> Mus musculus

<400> 828

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5

10

15

Asn Leu Leu Phe Phe Ile Leu Gly Ala Val Ile Leu Gly Phe Gly Val

20

25

30

Trp Ile Leu Ala Asp Lys Asn Ser Phe Ile Ser Val Leu Gln Thr Ser
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 Ser Ser Ser Leu Gln Val Gly Ala Tyr Val Phe Ile Gly Val Gly Ala
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 Ile Thr Ile Val Met Gly Phe Leu Gly Cys Ile Gly Ala Val Asn Glu
 65 70 75 80
 Val Arg Cys Leu Leu Gly Leu Tyr Phe Val Phe Leu Leu Leu Ile Leu
 85 90 95
 Ile Ala Gln Val Thr Val Gly Val Leu Phe Tyr Phe Asn Ala Asp Lys
 100 105 110
 Leu Lys Lys Glu Met Gly Asn Thr Val Met Asp Ile Ile Arg Asn Tyr
 115 120 125
 Thr Ala Asn Ala Thr Ser Ser Arg Glu Glu Ala Trp Asp Tyr Val Gln
 130 135 140
 Ala Gln Val Lys Cys Cys Gly Trp Val Ser His Tyr Asn Trp Thr Glu
 145 150 155 160
 Asn Glu Glu Leu Met Gly Phe Thr Lys Thr Thr Tyr Pro Cys Ser Cys
 165 170 175
 Glu Lys Ile Lys Glu Glu Asp Asn Gln Leu Ile Val Lys Lys Gly Phe
 180 185 190
 Cys Glu Ala Asp Asn Ser Thr Val Ser Glu Asn Asn Pro Glu Asp Trp
 195 200 205
 Pro Val Asn Thr Glu Gly Cys Met Glu Lys Ala Gln Ala Trp Leu Gln
 210 215 220
 Glu Asn Phe Gly Ile Leu Leu Gly Val Cys Ala Gly Val Ala Val Ile
 225 230 235 240
 Glu Leu Leu Gly Leu Phe Leu Ser Ile Cys Leu Cys Arg Tyr Ile His
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 Ser Glu Asp Tyr Ser Lys Val Pro Lys Tyr

260

265

<210> 829

<211> 1513

<212> DNA

<213> *Mus musculus*

<400> 829

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cgcatgcacg ggctgaacgc ggcgctggac aacctgcgca aggtgggtacc ttgctactcc 180
aagaccaga aactgtctaa aatagagaca ctgcgcttgg ccaagaacta catctgggct 240
ctgtcagaga tcctgcgctc aggcaaaagc cctgatctgg tctccttcgt acagacgctc 300
tgcaaagggtt tgteccagcc cactaccaat ttggctgccc gctgcctgca gctcaaccct 360
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tccttccegg tgcatcccta ctctaccag tccccggac tgcccagccc gccctacggc 480
accatggaca gctcccacgt ctccacgctc aagccgccgc cacacgccta cagcgagct 540
ctggagccct tctttgaaag ccccctaact gactgcacca gcccttcctt tgacggaccc 600
ctcagccgc cgctcagcat caatggcaac ttctctttca aacacgaacc atccgccgag 660
tttgaaaaaa attatgcctt taccatgcac taccctgcag cgacgctggc agggcccaa 720
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aacattatgt ctttcgatag ccattcgcat catgagcgag tcatgagtgc ccagcttaat 840
gccatcttct acgattagag gcacgtcagt ttactattc ccgggaaacg aatccactgt 900
gcgtacagtg actgtcctgt ttacagaagg cagccctttt gctaagattg ctgcaaagtg 960
caaatactca aagcttcaag tgatatatgt atttattgtc gttactgcct ttggaagaaa 1020
caggggatca aagttcctgt tcacctatg tattgttttc tatagctctt ctattttaaa 1080
aataataata cagtaaagta aaaaagaaaa tgtgtaccac gaatttcgtg tagctgtatt 1140
cagatcgtat taattatctg atcgggataa aaaaaatcac aagcaataat taggatctat 1200
gcaattttta aactagtaat gggccaatta aaatatatat aaatatatat ttttcaacca 1260

gcattttact acctgtgacc ttcccatgc tgaattatit tgttgtgatt ttgtacagaa 1320
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 tttatacata tcagaaaagt agaattatat ctaatttata caaaataatt taactaattt 1440
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 attgtaaaaa aga 1513

<210> 830

<211> 220

<212> DNA

<213> Mus musculus

<400> 830

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 agaggtgcaa gcccggttca ccatcaggag tgccgagcac accaacgatg tggagttccc 120
 gaacttcaat atcagctacc gacgctacgc ttgcctctac ttctgcatct gcgtggatgt 180
 caacgacaaa aaactagccg atctctaagg catccacaac 220

<210> 831

<211> 1765

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (112).. (1443)

<400> 831

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Met Gln
1

cgc cgg gac gat cct gcc tcg cgc ctc acc cgg tcc tcg ggg cgc agc 165
 Arg Arg Asp Asp Pro Ala Ser Arg Leu Thr Arg Ser Ser Gly Arg Ser
 5 10 15

tgc tcc aag gac ccg tca ggt gcc cac ccc tcg gtg cgt ctg acc ccg 213
 Cys Ser Lys Asp Pro Ser Gly Ala His Pro Ser Val Arg Leu Thr Pro
 20 25 30

tct cgg ccg tcg ccg ctt cct cac cgg ccc cgg gga ggg gga ggt ggg 261
 Ser Arg Pro Ser Pro Leu Pro His Arg Pro Arg Gly Gly Gly Gly Gly
 35 40 45 50

ccc aga gga ggc gct cgg gcc tcg ccc gcc acg cag ccg ccg ccg ctg 309
 Pro Arg Gly Gly Ala Arg Ala Ser Pro Ala Thr Gln Pro Pro Pro Leu
 55 60 65

ctg cct ccc tcc acc ccg ggt ccc gac gcg acg gtg gtg ggt tcc gcg 357
 Leu Pro Pro Ser Thr Pro Gly Pro Asp Ala Thr Val Val Gly Ser Ala
 70 75 80

ccg acc ccg ctg ctg ccc ccg tca gcc aca gcc gcg gtc aag atg gag 405
 Pro Thr Pro Leu Leu Pro Pro Ser Ala Thr Ala Ala Val Lys Met Glu
 85 90 95

ccg gag aat aag tac ctg cct gaa ctc atg gcc gag aag gac tcg ctc 453
 Pro Glu Asn Lys Tyr Leu Pro Glu Leu Met Ala Glu Lys Asp Ser Leu
 100 105 110

gac ccg tcc ttc act cac gcc atg cag ctg ctg tcc gta gaa att gag 501
 Asp Pro Ser Phe Thr His Ala Met Gln Leu Leu Ser Val Glu Ile Glu
 115 120 125 130

aag att cag aag gga gag tca aaa aaa gat gac gag gag aat tat ttg 549
 Lys Ile Gln Lys Gly Glu Ser Lys Lys Asp Asp Glu Glu Asn Tyr Leu
 135 140 145

gat tta tti tct cat aag aac atg aag ctg aaa gaa cgc gtg ctg ata	597
Asp Leu Phe Ser His Lys Asn Met Lys Leu Lys Glu Arg Val Leu Ile	
150 155 160	
cct gtc aag cag tat cca aag ttc aat ttt gtg cgg aag att ctt gga	645
Pro Val Lys Gln Tyr Pro Lys Phe Asn Phe Val Arg Lys Ile Leu Gly	
165 170 175	
cca caa gga aat aca atc aaa aga ctc cag gaa gag act ggt gca aag	693
Pro Gln Gly Asn Thr Ile Lys Arg Leu Gln Glu Glu Thr Gly Ala Lys	
180 185 190	
atc tct gtc ttg ggg aag ggt tca atg aga gac aaa gcc aag gag gaa	741
Ile Ser Val Leu Gly Lys Gly Ser Met Arg Asp Lys Ala Lys Glu Glu	
195 200 205 210	
gag ttg cgc aag ggt gga gac ccc aaa tat gcc cat tta aat atg gat	789
Glu Leu Arg Lys Gly Gly Asp Pro Lys Tyr Ala His Leu Asn Met Asp	
215 220 225	
ctg cat gtc ttc att gaa gtc ttt gga ccc ccg tgt gaa gct tat gct	837
Leu His Val Phe Ile Glu Val Phe Gly Pro Pro Cys Glu Ala Tyr Ala	
230 235 240	
ctt atg gcc cat gct atg gaa gaa gtc aag aag ttc cta gta cca gat	885
Leu Met Ala His Ala Met Glu Glu Val Lys Lys Phe Leu Val Pro Asp	
245 250 255	
atg atg gat gat atc tgt cag gag cag ttt cta gaa ttg tcc tac ttg	933
Met Met Asp Asp Ile Cys Gln Glu Gln Phe Leu Glu Leu Ser Tyr Leu	
260 265 270	
aac gga gta cct gaa ccc tct cgt ggt cgt ggg gta tct gtg aga gga	981
Asn Gly Val Pro Glu Pro Ser Arg Gly Arg Gly Val Ser Val Arg Gly	
275 280 285 290	
cga gga gct gcc cct cct cct cca cct gtt ccc aga gga cgt ggt gtt	1029
Arg Gly Ala Ala Pro Pro Pro Pro Pro Val Pro Arg Gly Arg Gly Val	

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gga cca cct aga gga gct ttg gtt cgt gga acc cca gtg aga ggc tcc	1077		
Gly Pro Pro Arg Gly Ala Leu Val Arg Gly Thr Pro Val Arg Gly Ser			
310	315	320	
atc acc aga ggg tcc act gtg act cga gga gtg cca ccc cca cct act	1125		
Ile Thr Arg Gly Ser Thr Val Thr Arg Gly Val Pro Pro Pro Pro Thr			
325	330	335	
gtg agg ggt gct cca aca cca aga gct cgg aca gct ggg att cag aga	1173		
Val Arg Gly Ala Pro Thr Pro Arg Ala Arg Thr Ala Gly Ile Gln Arg			
340	345	350	
ata cct ttg cct ccc aca cct gca cca gaa aca tac gaa gat tat gga	1221		
Ile Pro Leu Pro Pro Thr Pro Ala Pro Glu Thr Tyr Glu Asp Tyr Gly			
355	360	365	370
tat gat gat aca tac gca gaa cag agt tac gaa ggc tat gaa ggc tat	1269		
Tyr Asp Asp Thr Tyr Ala Glu Gln Ser Tyr Glu Gly Tyr Glu Gly Tyr			
375	380	385	
tac agc cag agt caa ggg gag tca gag tat tat gac tat gga cat ggg	1317		
Tyr Ser Gln Ser Gln Gly Glu Ser Glu Tyr Tyr Asp Tyr Gly His Gly			
390	395	400	
gag ctc caa gat tct tac gaa gcc tac gga caa gat gac tgg aat ggg	1365		
Glu Leu Gln Asp Ser Tyr Glu Ala Tyr Gly Gln Asp Asp Trp Asn Gly			
405	410	415	
acc agg cca tca ctg aag gct cct cca gct agg cca gtg aag gga gca	1413		
Thr Arg Pro Ser Leu Lys Ala Pro Pro Ala Arg Pro Val Lys Gly Ala			
420	425	430	
tac aga gag cat cca tat gga cgt tat taa aaacaaacag gagggaaaaa	1463		
Tyr Arg Glu His Pro Tyr Gly Arg Tyr			
435	440		
tatcagttat gagcaaagtt gttactgatt tcttgatcc caggattcct gttgctttac	1523		

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<210> 832

<211> 443

<212> PRT

<213> Mus musculus

<400> 832

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 Thr Pro Ser Arg Pro Ser Pro Leu Pro His Arg Pro Arg Gly Gly Gly
 35 40 45
 Gly Gly Pro Arg Gly Gly Ala Arg Ala Ser Pro Ala Thr Gln Pro Pro
 50 55 60
 Pro Leu Leu Pro Pro Ser Thr Pro Gly Pro Asp Ala Thr Val Val Gly
 65 70 75 80
 Ser Ala Pro Thr Pro Leu Leu Pro Pro Ser Ala Thr Ala Ala Val Lys
 85 90 95
 Met Glu Pro Glu Asn Lys Tyr Leu Pro Glu Leu Met Ala Glu Lys Asp
 100 105 110
 Ser Leu Asp Pro Ser Phe Thr His Ala Met Gln Leu Leu Ser Val Glu
 115 120 125
 Ile Glu Lys Ile Gln Lys Gly Glu Ser Lys Lys Asp Asp Glu Glu Asn

130	135	140
Tyr Leu Asp Leu Phe Ser His Lys Asn Met Lys Leu Lys Glu Arg Val		
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Leu Ile Pro Val Lys Gln Tyr Pro Lys Phe Asn Phe Val Arg Lys Ile		160
	165	170
Leu Gly Pro Gln Gly Asn Thr Ile Lys Arg Leu Gln Glu Glu Thr Gly		175
	180	185
Ala Lys Ile Ser Val Leu Gly Lys Gly Ser Met Arg Asp Lys Ala Lys		190
	195	200
Glu Glu Glu Leu Arg Lys Gly Gly Asp Pro Lys Tyr Ala His Leu Asn		205
	210	215
Met Asp Leu His Val Phe Ile Glu Val Phe Gly Pro Pro Cys Glu Ala		220
225	230	235
Tyr Ala Leu Met Ala His Ala Met Glu Glu Val Lys Lys Phe Leu Val		240
	245	250
Pro Asp Met Met Asp Asp Ile Cys Gln Glu Gln Phe Leu Glu Leu Ser		255
	260	265
Tyr Leu Asn Gly Val Pro Glu Pro Ser Arg Gly Arg Gly Val Ser Val		270
	275	280
Arg Gly Arg Gly Ala Ala Pro Pro Pro Pro Pro Val Pro Arg Gly Arg		285
	290	295
Gly Val Gly Pro Pro Arg Gly Ala Leu Val Arg Gly Thr Pro Val Arg		300
305	310	315
Gly Ser Ile Thr Arg Gly Ser Thr Val Thr Arg Gly Val Pro Pro Pro		320
	325	330
Pro Thr Val Arg Gly Ala Pro Thr Pro Arg Ala Arg Thr Ala Gly Ile		335
	340	345
Gln Arg Ile Pro Leu Pro Pro Thr Pro Ala Pro Glu Thr Tyr Glu Asp		350
	355	360
		365

Tyr Gly Tyr Asp Asp Thr Tyr Ala Glu Gln Ser Tyr Glu Gly Tyr Glu
 370 375 380
 Gly Tyr Tyr Ser Gln Ser Gln Gly Glu Ser Glu Tyr Tyr Asp Tyr Gly
 385 390 395 400
 His Gly Glu Leu Gln Asp Ser Tyr Glu Ala Tyr Gly Gln Asp Asp Trp
 405 410 415
 Asn Gly Thr Arg Pro Ser Leu Lys Ala Pro Pro Ala Arg Pro Val Lys
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 Gly Ala Tyr Arg Glu His Pro Tyr Gly Arg Tyr
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<210> 833

<211> 3292

<212> DNA

<213> *Mus musculus*

<220>

<221> CDS

<222> (424).. (1719)

<400> 833

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 caagcagtgc ttggggcctg ctggtttctg tagttaatac ggtattacaa atggtggggc 180
 agggctagag gatggcaaaa agcccttggt tagccgggca gatgtctggc atttgtcaat 240
 tactcacttt cagctcgttt ctccaacact ctgcctcact tttcttagtc cataaggtgg 300
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 tgccttgctc gcaggagca taccagtga tgaaagcggg cctcagatga aggtcttagg 420
 ggc atg gga tgt gga gat gaa cat cga gga act tca gat tcc tca gca 468

Met	Gly	Cys	Gly	Asp	Glu	His	Arg	Gly	Thr	Ser	Asp	Ser	Ser	Ala		
1				5					10					15		
gat	acg	gct	gct	gca	gct	tta	agc	act	ttt	ctc	agc	ctc	tgg	gcc	ttc	516
Asp	Thr	Ala	Ala	Ala	Ala	Leu	Ser	Thr	Phe	Leu	Ser	Leu	Trp	Ala	Phe	
			20						25					30		
agg	aac	aag	tgt	gca	ttt	gct	ggc	ggc	ggg	gag	ggc	gca	gat	gcg	ctt	564
Arg	Asn	Lys	Cys	Ala	Phe	Ala	Gly	Gly	Gly	Glu	Gly	Ala	Asp	Ala	Leu	
			35						40					45		
gtc	tat	agg	gtg	gtt	cta	gtt	ccc	cag	gcc	tcc	tgt	tcc	caa	cag	gac	612
Val	Tyr	Arg	Val	Val	Leu	Val	Pro	Gln	Ala	Ser	Cys	Ser	Gln	Gln	Asp	
			50						55					60		
cta	tgg	ctc	cac	tgt	ggc	tgt	ggc	tgg	aat	tat	gtg	tct	acg	tgt	tct	660
Leu	Trp	Leu	His	Cys	Gly	Cys	Gly	Trp	Asn	Tyr	Val	Ser	Thr	Cys	Ser	
			65						70					75		
tcc	cat	acg	gta	agc	tgg	cca	gtg	aag	att	gag	ctg	cgc	aac	cta	gac	708
Ser	His	Thr	Val	Ser	Trp	Pro	Val	Lys	Ile	Glu	Leu	Arg	Asn	Leu	Asp	
			80						85					90		
agt	tgc	agc	ctt	ttt	gtg	agc	ctg	tct	caa	ctt	cta	aat	act	agg	atc	756
Ser	Cys	Ser	Leu	Phe	Val	Ser	Leu	Ser	Gln	Leu	Leu	Asn	Thr	Arg	Ile	
			100						105					110		
tca	cgt	cta	ggc	att	gtg	ttc	aat	ttg	gaa	cag	acc	tct	cta	gaa	ttg	804
Ser	Arg	Leu	Gly	Ile	Val	Phe	Asn	Leu	Glu	Gln	Thr	Ser	Leu	Glu	Leu	
			115						120					125		
ggc	agt	ggc	gtc	ttt	ggc	aga	tgc	agg	ttc	tcc	aaa	gcc	cca	gca	ctt	852
Gly	Ser	Gly	Val	Phe	Gly	Arg	Cys	Arg	Phe	Ser	Lys	Ala	Pro	Ala	Leu	
			130						135					140		
cct	tgc	tca	tgc	aca	ggc	ttg	ttt	gtt	tgt	ttt	tcc	cta	cag	tgc	aca	900
Pro	Cys	Ser	Cys	Thr	Gly	Leu	Phe	Val	Cys	Phe	Ser	Leu	Gln	Cys	Thr	
			145						150					155		

2014/2644

305	310	315	
cag ggc cgg ggt cag gag aaa act aaa gaa gag gct gaa ctt gag gcc	1428		
Gln Gly Arg Gly Gln Glu Lys Thr Lys Glu Glu Ala Glu Leu Glu Ala			
320	325	330	335
aat aat gtg ttt cgt cag aag gtg gaa aat gac gta cca gcg tat gga	1476		
Asn Asn Val Phe Arg Gln Lys Val Glu Asn Asp Val Pro Ala Tyr Gly			
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gaa ccc aag ctg cca tct ggt gga tgc cag ccc ctc gag aga gac agt	1524		
Glu Pro Lys Leu Pro Ser Gly Gly Cys Gln Pro Leu Glu Arg Asp Ser			
355	360	365	
cct gca gaa ggt ttt aga gct gat cca gag ttc tgg tcg tta att gta	1572		
Pro Ala Glu Gly Phe Arg Ala Asp Pro Glu Phe Trp Ser Leu Ile Val			
370	375	380	
gtt gtt ctg gcc atg ttc ctc att aca ccg gag aag ctt gtg atg ccc	1620		
Val Val Leu Ala Met Phe Leu Ile Thr Pro Glu Lys Leu Val Met Pro			
385	390	395	
cga aac cca tca ctt gcc atg cag ctt ctt aga ttt agg ggg tat gag	1668		
Arg Asn Pro Ser Leu Ala Met Gln Leu Leu Arg Phe Arg Gly Tyr Glu			
400	405	410	415
cat att tgg tgg aaa aaa aat tgg gga ttg agc agt ttg ctt tcc ttc	1716		
His Ile Trp Trp Lys Lys Asn Trp Gly Leu Ser Ser Leu Leu Ser Phe			
420	425	430	
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<210> 834

<211> 431

<212> PRT

<213> Mus musculus

<400> 834

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Trp	Ala	Phe	Arg
20	25	30	
Asn	Lys	Cys	Ala
Phe	Ala	Gly	Gly
Gly	Glu	Gly	Ala
Asp	Ala	Leu	Val
35	40	45	
Tyr	Arg	Val	Val
Leu	Val	Pro	Gln
Ala	Ser	Cys	Ser
Gln	Gln	Asp	Leu
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Trp	Leu	His	Cys
Gly	Cys	Gly	Trp
Asn	Tyr	Val	Ser
Thr	Cys	Ser	Ser
65	70	75	80
His	Thr	Val	Ser
Trp	Pro	Val	Lys
Ile	Glu	Leu	Arg
Asn	Leu	Asp	Ser
85	90	95	
Cys	Ser	Leu	Phe
Val	Ser	Leu	Ser
Gln	Leu	Leu	Asn
Thr	Arg	Ile	Ser
100	105	110	
Arg	Leu	Gly	Ile
Val	Phe	Asn	Leu
Glu	Gln	Thr	Ser
Leu	Glu	Leu	Gly
115	120	125	
Ser	Gly	Val	Phe
Gly	Arg	Cys	Arg
Phe	Ser	Lys	Ala
Pro	Ala	Leu	Pro
130	135	140	
Cys	Ser	Cys	Thr
Gly	Leu	Phe	Val
Cys	Phe	Ser	Leu
Gln	Cys	Thr	Ser
145	150	155	160
Phe	Ile	Pro	Glu
Ala	Arg	Ala	Val
Leu	Asp	Leu	Val
Asp	Gln	Cys	Pro
165	170	175	
Lys	Glu	Val	Gln
Lys	Gly	Lys	Phe
Gln	Val	Ile	Ala
Ile	Glu	Gly	Leu
180	185	190	
Asp	Ala	Thr	Gly
Lys	Thr	Thr	Leu
Thr	Gln	His	Phe
Lys	Ser	Leu	Ser
195	200	205	
Arg	Leu	Ser	Ser
Tyr	Ser	Arg	His
Pro	Pro	Cys	Ile
Lys	Pro	Val	Glu
210	215	220	
Glu	Asp	Leu	Leu
Met	Met	Asn	Leu
Leu	Ser	Phe	Glu
Glu	Pro	Phe	Ile
225	230	235	240

Leu Trp Ala Asn Tyr Leu Val Ala Ser Glu Ile Ala Lys Glu Ser Thr
 245 250 255
 Asn Phe Pro Val Ile Val Asp Arg Tyr Trp His Ser Thr Ala Thr Tyr
 260 265 270
 Ala Ile Ala Thr Glu Val Ser Gly Gly Leu Gln Tyr Leu Pro Pro Ala
 275 280 285
 His His Pro Val Tyr Gln Trp Pro Gly Asp Leu Leu Lys Pro Asp Leu
 290 295 300
 Val Leu Leu Leu Thr Val Asn Ser Glu Glu Arg Val Arg Arg Leu Gln
 305 310 315 320
 Gly Arg Gly Gln Glu Lys Thr Lys Glu Glu Ala Glu Leu Glu Ala Asn
 325 330 335
 Asn Val Phe Arg Gln Lys Val Glu Asn Asp Val Pro Ala Tyr Gly Glu
 340 345 350
 Pro Lys Leu Pro Ser Gly Gly Cys Gln Pro Leu Glu Arg Asp Ser Pro
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 Ala Glu Gly Phe Arg Ala Asp Pro Glu Phe Trp Ser Leu Ile Val Val
 370 375 380
 Val Leu Ala Met Phe Leu Ile Thr Pro Glu Lys Leu Val Met Pro Arg
 385 390 395 400
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<210> 835

<211> 3071

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (402).. (1466)

<400> 835

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Met Val Pro Lys Ser

1

5

tcg ggg gcg cgg agc ccc tca cct gga cgg cgg gag gag gac ggg gac 464
 Ser Gly Ala Arg Ser Pro Ser Pro Gly Arg Arg Glu Glu Asp Gly Asp

10

15

20

gag ctg gcc cgc cgc tgc agc acc ttc atg tcc tcg ccg gtg acc gag 512
 Glu Leu Ala Arg Arg Cys Ser Thr Phe Met Ser Ser Pro Val Thr Glu

25

30

35

ctg cgg gag ctg cgg agg agg ccg gag gac atg aag acc aag atg gag 560
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40

45

50

ctg atg att atg gag acc cag gct cag gtg tgt cgg gca ctg gcg cag 608
 Leu Met Ile Met Glu Thr Gln Ala Gln Val Cys Arg Ala Leu Ala Gln

55

60

65

gta gat ggc gtt gcc gac ttc act gtg gac cgg tgg gag agg aaa gaa 656
 Val Asp Gly Val Ala Asp Phe Thr Val Asp Arg Trp Glu Arg Lys Glu

70	75	80	85	
gga gga ggt ggc atc acc tgt gtg ctt cag gac ggg cgt gtg ttt gaa				704
Gly Gly Gly Gly Ile Thr Cys Val Leu Gln Asp Gly Arg Val Phe Glu				
	90	95	100	
aag gcc ggg gtg agc att tcc gtc gtt cat ggg aat ctt tct gag gaa				752
Lys Ala Gly Val Ser Ile Ser Val Val His Gly Asn Leu Ser Glu Glu				
	105	110	115	
gca gcg aac caa atg aga ggc aga ggc aaa act ctg aag acg aaa gat				800
Ala Ala Asn Gln Met Arg Gly Arg Gly Lys Thr Leu Lys Thr Lys Asp				
	120	125	130	
agt aaa ttg cca ttt act gct atg ggt gta agt tct gtg att cac ccc				848
Ser Lys Leu Pro Phe Thr Ala Met Gly Val Ser Ser Val Ile His Pro				
	135	140	145	
aag aat cct tat gcg ccc acc atg cat ttc aac tac aga tac ttt gaa				896
Lys Asn Pro Tyr Ala Pro Thr Met His Phe Asn Tyr Arg Tyr Phe Glu				
	150	155	160	165
gta gag gaa gct gac ggt aac aca cac tgg tgg ttt ggg ggt ggc tgt				944
Val Glu Glu Ala Asp Gly Asn Thr His Trp Trp Phe Gly Gly Gly Cys				
	170	175	180	
gac ctc aca ccg aga tac ttg aac caa gag gat gct gtc cat ttc cac				992
Asp Leu Thr Pro Arg Tyr Leu Asn Gln Glu Asp Ala Val His Phe His				
	185	190	195	
cgt act cta aag gaa gct tgc gat cag cat ggg cca gac atc tac cca				1040
Arg Thr Leu Lys Glu Ala Cys Asp Gln His Gly Pro Asp Ile Tyr Pro				
	200	205	210	
aag ttt aaa aaa tgg tgt gac gac tac ttc ttt ata gtt cac cgc ggg				1088
Lys Phe Lys Lys Trp Cys Asp Asp Tyr Phe Phe Ile Val His Arg Gly				
	215	220	225	
gag cgg agg ggc atc ggc ggc atc ttt ttt gac gat ctt gac tcc ccc				1136

Glu Arg Arg Gly Ile Gly Gly Ile Phe Phe Asp Asp Leu Asp Ser Pro
 230 235 240 245
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 Ser Lys Glu Glu Ala Phe Arg Phe Val Lys Thr Cys Ala Glu Ala Val
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 gtc cct tcc tat gtt ccc att gtg aag aag cac tgc gat gac tcc tac 1232
 Val Pro Ser Tyr Val Pro Ile Val Lys Lys His Cys Asp Asp Ser Tyr
 265 270 275
 acc ccc agg gac aag ctg tgg cag cag ctg agg aga ggg cgg tat gtg 1280
 Thr Pro Arg Asp Lys Leu Trp Gln Gln Leu Arg Arg Gly Arg Tyr Val
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 Pro Gly Ser Arg Ile Glu Ser Ile Leu Met Ser Leu Pro Leu Thr Ala
 310 315 320 325
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 Arg Trp Glu Tyr Met His Ser Pro Pro Glu Asn Ser Lys Glu Ala Glu
 330 335 340
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 Ile Leu Glu Val Leu Arg His Pro Lys Asp Trp Val His
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<210> 836

<211> 354

<212> PRT

<213> Mus musculus

<400> 836

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35	40	45	
Lys Thr Lys Met Glu Leu Met Ile Met Glu Thr Gln Ala Gln Val Cys			
50	55	60	
Arg Ala Leu Ala Gln Val Asp Gly Val Ala Asp Phe Thr Val Asp Arg			
65	70	75	80
Trp Glu Arg Lys Glu Gly Gly Gly Gly Ile Thr Cys Val Leu Gln Asp			
85	90	95	
Gly Arg Val Phe Glu Lys Ala Gly Val Ser Ile Ser Val Val His Gly			
100	105	110	
Asn Leu Ser Glu Glu Ala Ala Asn Gln Met Arg Gly Arg Gly Lys Thr			
115	120	125	
Leu Lys Thr Lys Asp Ser Lys Leu Pro Phe Thr Ala Met Gly Val Ser			
130	135	140	
Ser Val Ile His Pro Lys Asn Pro Tyr Ala Pro Thr Met His Phe Asn			
145	150	155	160
Tyr Arg Tyr Phe Glu Val Glu Glu Ala Asp Gly Asn Thr His Trp Trp			
165	170	175	
Phe Gly Gly Gly Cys Asp Leu Thr Pro Arg Tyr Leu Asn Gln Glu Asp			
180	185	190	
Ala Val His Phe His Arg Thr Leu Lys Glu Ala Cys Asp Gln His Gly			
195	200	205	
Pro Asp Ile Tyr Pro Lys Phe Lys Lys Trp Cys Asp Asp Tyr Phe Phe			
210	215	220	
Ile Val His Arg Gly Glu Arg Arg Gly Ile Gly Gly Ile Phe Phe Asp			
225	230	235	240

Asp Leu Asp Ser Pro Ser Lys Glu Glu Ala Phe Arg Phe Val Lys Thr
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 Cys Ala Glu Ala Val Val Pro Ser Tyr Val Pro Ile Val Lys Lys His
 260 265 270
 Cys Asp Asp Ser Tyr Thr Pro Arg Asp Lys Leu Trp Gln Gln Leu Arg
 275 280 285
 Arg Gly Arg Tyr Val Glu Phe Asn Leu Leu Tyr Asp Arg Gly Thr Lys
 290 295 300
 Phe Gly Leu Phe Thr Pro Gly Ser Arg Ile Glu Ser Ile Leu Met Ser
 305 310 315 320
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 Ser Lys Glu Ala Glu Ile Leu Glu Val Leu Arg His Pro Lys Asp Trp
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<210> 837

<211> 2547

<212> DNA

<213> Mus musculus

<400> 837

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<210> 838

<211> 4697

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (8).. (2029)

<400> 838

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 Val Arg Leu Gln Tyr Gly Ser Arg Val Glu Ala Val Tyr Val Leu Gly
 15 20 25 30
 acg cag ctc tgg acc gat gtc tac agt gca gca cct gct ggg gcc aaa 145
 Thr Gln Leu Trp Thr Asp Val Tyr Ser Ala Ala Pro Ala Gly Ala Lys
 35 40 45
 acc ttc agc ctg aag cac tcg gag ggt gtg aag gtg gag gtc gta cgt 193
 Thr Phe Ser Leu Lys His Ser Glu Gly Val Lys Val Glu Val Val Arg

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Asp Gly Glu Ala Glu Glu Val Val Thr Asn Gly Lys Gln Arg Trp Ala			
65	70	75	
ctg tca ccc agc agc aca ctg cgg ctc agc atg gcc cag gcc agc aca	289		
Leu Ser Pro Ser Ser Thr Leu Arg Leu Ser Met Ala Gln Ala Ser Thr			
80	85	90	
gag gcc agc agc gac aag gtc act gtc aac tac tat gaa gag gag ggc	337		
Glu Ala Ser Ser Asp Lys Val Thr Val Asn Tyr Tyr Glu Glu Glu Gly			
95	100	105	110
agc gcc ccc att gac cag gct ggg ctc ttc ctc acg gcc att gag atc	385		
Ser Ala Pro Ile Asp Gln Ala Gly Leu Phe Leu Thr Ala Ile Glu Ile			
115	120	125	
tcg ctg gat gtg gac gca gat cgg gat gga gag gtg gag aag aac aat	433		
Ser Leu Asp Val Asp Ala Asp Arg Asp Gly Glu Val Glu Lys Asn Asn			
130	135	140	
cct aag aag gca tcc tgg acc tgg ggt cct gag ggc caa ggg gcc atc	481		
Pro Lys Lys Ala Ser Trp Thr Trp Gly Pro Glu Gly Gln Gly Ala Ile			
145	150	155	
ctg ctg gtg aat tgt gac cga gac aca ccc tgg ttg ccc aag gag gac	529		
Leu Leu Val Asn Cys Asp Arg Asp Thr Pro Trp Leu Pro Lys Glu Asp			
160	165	170	
tgt agt gac gaa aag gtc tac agc aag caa gac ctc cag gac atg tct	577		
Cys Ser Asp Glu Lys Val Tyr Ser Lys Gln Asp Leu Gln Asp Met Ser			
175	180	185	190
cag atg atc ctg cgc acc aaa ggc cct gac cgc ctg ccc gcc ggg tat	625		
Gln Met Ile Leu Arg Thr Lys Gly Pro Asp Arg Leu Pro Ala Gly Tyr			
195	200	205	
gaa ata gtc ctc tac atc tcc atg tcg gac tcg gac aaa gtg ggc gtc	673		

Glu Ile Val Leu Tyr Ile Ser Met Ser Asp Ser Asp Lys Val Gly Val
 210 215 220
 ttc tac gtg gag aac ccg ttc ttt ggc cag cgc tat atc cac atc ctg 721
 Phe Tyr Val Glu Asn Pro Phe Phe Gly Gln Arg Tyr Ile His Ile Leu
 225 230 235
 ggc cgg cag aag ctc tac cac gtg gtc aag tac acc ggc ggt tct gcg 769
 Gly Arg Gln Lys Leu Tyr His Val Val Lys Tyr Thr Gly Gly Ser Ala
 240 245 250
 gag ttg ctg ttc ttc gtg gag ggc ctc tgt ttc ccc gat gag agt ttc 817
 Glu Leu Leu Phe Phe Val Glu Gly Leu Cys Phe Pro Asp Glu Ser Phe
 255 260 265 270
 tca ggc ctg gtt tct atc cac gtc agt ctg ctg gag tat atg gcc gag 865
 Ser Gly Leu Val Ser Ile His Val Ser Leu Leu Glu Tyr Met Ala Glu
 275 280 285
 ggc atc ccg ttg acc ccc atc ttc aca gac act gtg atg ttc cgg att 913
 Gly Ile Pro Leu Thr Pro Ile Phe Thr Asp Thr Val Met Phe Arg Ile
 290 295 300
 gca ccc tgg att atg acc ccc aac atc ctg cct cct gtg tca gtg ttc 961
 Ala Pro Trp Ile Met Thr Pro Asn Ile Leu Pro Pro Val Ser Val Phe
 305 310 315
 gtg tgc tgc atg aag gac aat tac ctg ttc ctg aaa gag gtg aag aac 1009
 Val Cys Cys Met Lys Asp Asn Tyr Leu Phe Leu Lys Glu Val Lys Asn
 320 325 330
 ttg gtg gag aaa acc aac tgc gaa ctg aaa gtt tgt ttc cag tac atg 1057
 Leu Val Glu Lys Thr Asn Cys Glu Leu Lys Val Cys Phe Gln Tyr Met
 335 340 345 350
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 Asn Arg Gly Asp Arg Trp Ile Gln Asp Glu Ile Glu Phe Gly Tyr Ile
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Glu Ala Pro His Lys Gly Phe Pro Val Val Leu Asp Ser Pro Arg Asp	
370 375 380	
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Gly Asn Leu Lys Asp Phe Pro Ile Lys Gln Leu Leu Gly Pro Asp Phe	
385 390 395	
ggc tat gtg acc cgg gag ccc ctc ttt gag act gtc acc agc ctc gac	1249
Gly Tyr Val Thr Arg Glu Pro Leu Phe Glu Thr Val Thr Ser Leu Asp	
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tcc ttc ggg aat ctg gag gtc agt ccc cca gtg acc gtg aat ggc aag	1297
Ser Phe Gly Asn Leu Glu Val Ser Pro Pro Val Thr Val Asn Gly Lys	
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Glu Tyr Pro Leu Gly Arg Ile Leu Ile Gly Ser Ser Phe Pro Leu Ser	
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Gly Gly Arg Arg Met Thr Lys Val Val Arg Asp Phe Leu Gln Ala Gln	
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cag gtg cag gcg ccc gtg gaa ctc tac tcc gac tgg ctg act gta ggc	1441
Gln Val Gln Ala Pro Val Glu Leu Tyr Ser Asp Trp Leu Thr Val Gly	
465 470 475	
cac gtc gat gag ttt atg act ttc atc ccc atc cca ggc aaa aag gaa	1489
His Val Asp Glu Phe Met Thr Phe Ile Pro Ile Pro Gly Lys Lys Glu	
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Phe Arg Leu Leu Met Ala Ser Thr Ser Ala Cys Tyr Gln Leu Phe Arg	
495 500 505 510	
gaa aag cag aag gca ggc cac ggg gag gcc gtt atg ttc aag ggc ctg	1585
Glu Lys Gln Lys Ala Gly His Gly Glu Ala Val Met Phe Lys Gly Leu	

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gga ggc atg agc agc aag cgc atc acc atc aac aag atc ctg tcc aat			1633
Gly Gly Met Ser Ser Lys Arg Ile Thr Ile Asn Lys Ile Leu Ser Asn			
530	535	540	
gag agc ctc acg cag gag aac cag tac ttc cag cgc tgt ctg gac tgg			1681
Glu Ser Leu Thr Gln Glu Asn Gln Tyr Phe Gln Arg Cys Leu Asp Trp			
545	550	555	
aac cgc gac atc ctt aag agg gag cta gcg ctg act gag aag gac att			1729
Asn Arg Asp Ile Leu Lys Arg Glu Leu Ala Leu Thr Glu Lys Asp Ile			
560	565	570	
att gac ctg ccc gcg ctc ttc aag atg gat gaa aat cac cag gcc agg			1777
Ile Asp Leu Pro Ala Leu Phe Lys Met Asp Glu Asn His Gln Ala Arg			
575	580	585	590
gct ttc ttc cct aac atg gtg aac atg atc gtg cta gac aag gac ctg			1825
Ala Phe Phe Pro Asn Met Val Asn Met Ile Val Leu Asp Lys Asp Leu			
595	600	605	
ggc atc ccc aag cct ttc ggg ccc cag gtg gag gag gag tgc tgc ctg			1873
Gly Ile Pro Lys Pro Phe Gly Pro Gln Val Glu Glu Glu Cys Cys Leu			
610	615	620	
gag acg cac gtt cga ggc ctg ctg gag ccc ctg ggc ctc gcc tgc acg			1921
Glu Thr His Val Arg Gly Leu Leu Glu Pro Leu Gly Leu Ala Cys Thr			
625	630	635	
ttc atc gat gac atc tcc gcc tac cac aag ttc ttg gga gag gtt cac			1969
Phe Ile Asp Asp Ile Ser Ala Tyr His Lys Phe Leu Gly Glu Val His			
640	645	650	
tgt ggc acc aat gtc cgc agg aag ccg ttc gcc ttc aag tgg tgg cac			2017
Cys Gly Thr Asn Val Arg Arg Lys Pro Phe Ala Phe Lys Trp Trp His			
655	660	665	670
atg gtg ccc tga ctgccctttc cttttcctcc tccgctgcgg tctctgggtc			2069

Met Val Pro

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<211> 673

<212> PRT

<213> Mus musculus

<400> 839

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				20				25						30	
Leu	Trp	Thr	Asp	Val	Tyr	Ser	Ala	Ala	Pro	Ala	Gly	Ala	Lys	Thr	Phe
				35				40						45	

Ser Leu Lys His Ser Glu Gly Val Lys Val Glu Val Val Arg Asp Gly
 50 55 60
 Glu Ala Glu Glu Val Val Thr Asn Gly Lys Gln Arg Trp Ala Leu Ser
 65 70 75 80
 Pro Ser Ser Thr Leu Arg Leu Ser Met Ala Gln Ala Ser Thr Glu Ala
 85 90 95
 Ser Ser Asp Lys Val Thr Val Asn Tyr Tyr Glu Glu Glu Gly Ser Ala
 100 105 110
 Pro Ile Asp Gln Ala Gly Leu Phe Leu Thr Ala Ile Glu Ile Ser Leu
 115 120 125
 Asp Val Asp Ala Asp Arg Asp Gly Glu Val Glu Lys Asn Asn Pro Lys
 130 135 140
 Lys Ala Ser Trp Thr Trp Gly Pro Glu Gly Gln Gly Ala Ile Leu Leu
 145 150 155 160
 Val Asn Cys Asp Arg Asp Thr Pro Trp Leu Pro Lys Glu Asp Cys Ser
 165 170 175
 Asp Glu Lys Val Tyr Ser Lys Gln Asp Leu Gln Asp Met Ser Gln Met
 180 185 190
 Ile Leu Arg Thr Lys Gly Pro Asp Arg Leu Pro Ala Gly Tyr Glu Ile
 195 200 205
 Val Leu Tyr Ile Ser Met Ser Asp Ser Asp Lys Val Gly Val Phe Tyr
 210 215 220
 Val Glu Asn Pro Phe Phe Gly Gln Arg Tyr Ile His Ile Leu Gly Arg
 225 230 235 240
 Gln Lys Leu Tyr His Val Val Lys Tyr Thr Gly Gly Ser Ala Glu Leu
 245 250 255
 Leu Phe Phe Val Glu Gly Leu Cys Phe Pro Asp Glu Ser Phe Ser Gly
 260 265 270
 Leu Val Ser Ile His Val Ser Leu Leu Glu Tyr Met Ala Glu Gly Ile

275	280	285
Pro Leu Thr Pro Ile Phe Thr Asp Thr Val Met Phe Arg Ile Ala Pro		
290	295	300
Trp Ile Met Thr Pro Asn Ile Leu Pro Pro Val Ser Val Phe Val Cys		
305	310	315
Cys Met Lys Asp Asn Tyr Leu Phe Leu Lys Glu Val Lys Asn Leu Val		320
	325	330
		335
Glu Lys Thr Asn Cys Glu Leu Lys Val Cys Phe Gln Tyr Met Asn Arg		
	340	345
		350
Gly Asp Arg Trp Ile Gln Asp Glu Ile Glu Phe Gly Tyr Ile Glu Ala		
	355	360
		365
Pro His Lys Gly Phe Pro Val Val Leu Asp Ser Pro Arg Asp Gly Asn		
	370	375
		380
Leu Lys Asp Phe Pro Ile Lys Gln Leu Leu Gly Pro Asp Phe Gly Tyr		
385	390	395
		400
Val Thr Arg Glu Pro Leu Phe Glu Thr Val Thr Ser Leu Asp Ser Phe		
	405	410
		415
Gly Asn Leu Glu Val Ser Pro Pro Val Thr Val Asn Gly Lys Glu Tyr		
	420	425
		430
Pro Leu Gly Arg Ile Leu Ile Gly Ser Ser Phe Pro Leu Ser Gly Gly		
	435	440
		445
Arg Arg Met Thr Lys Val Val Arg Asp Phe Leu Gln Ala Gln Gln Val		
	450	455
		460
Gln Ala Pro Val Glu Leu Tyr Ser Asp Trp Leu Thr Val Gly His Val		
465	470	475
		480
Asp Glu Phe Met Thr Phe Ile Pro Ile Pro Gly Lys Lys Glu Phe Arg		
	485	490
		495
Leu Leu Met Ala Ser Thr Ser Ala Cys Tyr Gln Leu Phe Arg Glu Lys		
	500	505
		510

Gln Lys Ala Gly His Gly Glu Ala Val Met Phe Lys Gly Leu Gly Gly
 515 520 525
 Met Ser Ser Lys Arg Ile Thr Ile Asn Lys Ile Leu Ser Asn Glu Ser
 530 535 540
 Leu Thr Gln Glu Asn Gln Tyr Phe Gln Arg Cys Leu Asp Trp Asn Arg
 545 550 555 560
 Asp Ile Leu Lys Arg Glu Leu Ala Leu Thr Glu Lys Asp Ile Ile Asp
 565 570 575
 Leu Pro Ala Leu Phe Lys Met Asp Glu Asn His Gln Ala Arg Ala Phe
 580 585 590
 Phe Pro Asn Met Val Asn Met Ile Val Leu Asp Lys Asp Leu Gly Ile
 595 600 605
 Pro Lys Pro Phe Gly Pro Gln Val Glu Glu Glu Cys Cys Leu Glu Thr
 610 615 620
 His Val Arg Gly Leu Leu Glu Pro Leu Gly Leu Ala Cys Thr Phe Ile
 625 630 635 640
 Asp Asp Ile Ser Ala Tyr His Lys Phe Leu Gly Glu Val His Cys Gly
 645 650 655
 Thr Asn Val Arg Arg Lys Pro Phe Ala Phe Lys Trp Trp His Met Val
 660 665 670

Pro

<210> 840

<211> 2190

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (187).. (1281)

<400> 840

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 accaccttct cctccgctgt cctcttctgt cctcgccttc tctcgattat caggctttga 180
 accagt atg gct gac cct cgc cag gag ttt gac aca atg gaa gac cat 228
 Met Ala Asp Pro Arg Gln Glu Phe Asp Thr Met Glu Asp His
 1 5 10
 gct gga gat tac act ctg ctc caa gac caa gaa gga gac atg gac cat 276
 Ala Gly Asp Tyr Thr Leu Leu Gln Asp Gln Glu Gly Asp Met Asp His
 15 20 25 30
 ggc tta aaa gcc gaa gaa gca ggc atc gga gac acc ccg aac cag gag 324
 Gly Leu Lys Ala Glu Glu Ala Gly Ile Gly Asp Thr Pro Asn Gln Glu
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 gac caa gcc gct ggg cat gtg act caa gct cgt gtg gcc agc aaa gac 372
 Asp Gln Ala Ala Gly His Val Thr Gln Ala Arg Val Ala Ser Lys Asp
 50 55 60
 agg aca gga aat gac gag aag aaa gcc aag ggc gct gat ggc aaa acc 420
 Arg Thr Gly Asn Asp Glu Lys Lys Ala Lys Gly Ala Asp Gly Lys Thr
 65 70 75
 ggg gcg aag atc gcc aca cct cgg gga gca gcc tct ccg gcc cag aag 468
 Gly Ala Lys Ile Ala Thr Pro Arg Gly Ala Ala Ser Pro Ala Gln Lys
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 Gly Thr Ser Asn Ala Thr Arg Ile Pro Ala Lys Thr Thr Pro Ser Pro
 95 100 105 110
 aag act cct cca ggg tca ggt gaa cca cca aaa tcc gga gaa cga agc 564
 Lys Thr Pro Pro Gly Ser Gly Glu Pro Pro Lys Ser Gly Glu Arg Ser

115	120	125	
ggc tac agc agc ccc ggc tct ccc gga acg cct ggc agt cgc tgc cgc			612
Gly Tyr Ser Ser Pro Gly Ser Pro Gly Thr Pro Gly Ser Arg Ser Arg			
130	135	140	
acc cca tcc cta cca aca ccg ccc acc cgg gag ccc aag aag gtg gca			660
Thr Pro Ser Leu Pro Thr Pro Pro Thr Arg Glu Pro Lys Lys Val Ala			
145	150	155	
gtg gtc cgc act ccc cct aag tca cca tca gct agt aag agc cgc ctg			708
Val Val Arg Thr Pro Pro Lys Ser Pro Ser Ala Ser Lys Ser Arg Leu			
160	165	170	
cag act gcc cct gtg ccc atg cca gac cta aag aat gtc agg tgc aag			756
Gln Thr Ala Pro Val Pro Met Pro Asp Leu Lys Asn Val Arg Ser Lys			
175	180	185	190
att ggc tct act gag aac ctg aag cac cag cca gga ggt ggc aag gtg			804
Ile Gly Ser Thr Glu Asn Leu Lys His Gln Pro Gly Gly Gly Lys Val			
195	200	205	
caa ata gtc tac aag ccg gtg gac ctg agc aaa gtg acc tcc aag tgt			852
Gln Ile Val Tyr Lys Pro Val Asp Leu Ser Lys Val Thr Ser Lys Cys			
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Gly Ser Leu Gly Asn Ile His His Lys Pro Gly Gly Gly Gln Val Glu			
225	230	235	
gta aaa tca gag aag ctg gac ttc aag gac aga gtc cag tgc aag att			948
Val Lys Ser Glu Lys Leu Asp Phe Lys Asp Arg Val Gln Ser Lys Ile			
240	245	250	
ggc tcc ttg gat aat atc acc cac gtc cct gga gga ggg aat aag aag			996
Gly Ser Leu Asp Asn Ile Thr His Val Pro Gly Gly Gly Asn Lys Lys			
255	260	265	270
att gaa acc cac aag ctg acc ttc agg gag aat gcc aaa gcc aag aca			1044

Ile Glu Thr His Lys Leu Thr Phe Arg Glu Asn Ala Lys Ala Lys Thr
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 Asp His Gly Ala Glu Ile Val Tyr Lys Ser Pro Val Val Ser Gly Asp
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 aca tct cca cgg cac ctc agc aat gtg tct tcc acg ggc agc atc gac 1140
 Thr Ser Pro Arg His Leu Ser Asn Val Ser Ser Thr Gly Ser Ile Asp
 305 310 315
 atg gtg gac tca cca cag ctt gcc aca cta gcc gat gaa gtg tct gct 1188
 Met Val Asp Ser Pro Gln Leu Ala Thr Leu Ala Asp Glu Val Ser Ala
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 Ser Leu Ala Lys Gln Gly Lys Ala Ala Leu Leu Ser Ser Gln Val Trp
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 aac tac agc cat gat ttg gcc acc att aca gac ctg gga ctt tag 1281
 Asn Tyr Ser His Asp Leu Ala Thr Ile Thr Asp Leu Gly Leu
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<210> 841

<211> 364

<212> PRT

<213> Mus musculus

<400> 841

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			20					25						30	
Lys	Ala	Glu	Glu	Ala	Gly	Ile	Gly	Asp	Thr	Pro	Asn	Gln	Glu	Asp	Gln
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Ala	Ala	Gly	His	Val	Thr	Gln	Ala	Arg	Val	Ala	Ser	Lys	Asp	Arg	Thr
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Gly	Asn	Asp	Glu	Lys	Lys	Ala	Lys	Gly	Ala	Asp	Gly	Lys	Thr	Gly	Ala
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Lys	Ile	Ala	Thr	Pro	Arg	Gly	Ala	Ala	Ser	Pro	Ala	Gln	Lys	Gly	Thr
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Pro	Pro	Gly	Ser	Gly	Glu	Pro	Pro	Lys	Ser	Gly	Glu	Arg	Ser	Gly	Tyr
			115					120					125		
Ser	Ser	Pro	Gly	Ser	Pro	Gly	Thr	Pro	Gly	Ser	Arg	Ser	Arg	Thr	Pro
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 Arg Thr Pro Pro Lys Ser Pro Ser Ala Ser Lys Ser Arg Leu Gln Thr
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 Ala Pro Val Pro Met Pro Asp Leu Lys Asn Val Arg Ser Lys Ile Gly
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 195 200 205
 Val Tyr Lys Pro Val Asp Leu Ser Lys Val Thr Ser Lys Cys Gly Ser
 210 215 220
 Leu Gly Asn Ile His His Lys Pro Gly Gly Gly Gln Val Glu Val Lys
 225 230 235 240
 Ser Glu Lys Leu Asp Phe Lys Asp Arg Val Gln Ser Lys Ile Gly Ser
 245 250 255
 Leu Asp Asn Ile Thr His Val Pro Gly Gly Gly Asn Lys Lys Ile Glu
 260 265 270
 Thr His Lys Leu Thr Phe Arg Glu Asn Ala Lys Ala Lys Thr Asp His
 275 280 285
 Gly Ala Glu Ile Val Tyr Lys Ser Pro Val Val Ser Gly Asp Thr Ser
 290 295 300
 Pro Arg His Leu Ser Asn Val Ser Ser Thr Gly Ser Ile Asp Met Val
 305 310 315 320
 Asp Ser Pro Gln Leu Ala Thr Leu Ala Asp Glu Val Ser Ala Ser Leu
 325 330 335
 Ala Lys Gln Gly Lys Ala Ala Leu Leu Ser Ser Gln Val Trp Asn Tyr
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<210> 842

<211> 2152

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (16).. (1659)

<400> 842

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cgg gta ttc gtg gtc ggc gtt ggc atg acc aag ttc atg aag cct gga 99
Arg Val Phe Val Val Gly Val Gly Met Thr Lys Phe Met Lys Pro Gly
              15              20              25
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Gly Glu Asn Ser Arg Asp Tyr Pro Asp Met Ala Lys Glu Ala Gly Gln
              30              35              40
aag gca ttg gaa gat gca cag atc cct tac tcc gca gtg gaa cag gca 195
Lys Ala Leu Glu Asp Ala Gln Ile Pro Tyr Ser Ala Val Glu Gln Ala
              45              50              55              60
tgc gtt ggc tat gtg tat ggt gat tcc acc agt ggg cag agg gct atc 243
Cys Val Gly Tyr Val Tyr Gly Asp Ser Thr Ser Gly Gln Arg Ala Ile
              65              70              75
tat cat agt ttg gga ctg act ggc att cct ata att aat gtc aac aat 291
Tyr His Ser Leu Gly Leu Thr Gly Ile Pro Ile Ile Asn Val Asn Asn
              80              85              90
aac tgt tct act ggt tcg act gct ttg ttt atg gcc cat caa ctg att 339

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Asn Cys Ser Thr Gly Ser Thr Ala Leu Phe Met Ala His Gln Leu Ile
 95 100 105
 caa gga ggc ttg gca aat tgt gtg ttg gct ctt ggg ttt gag aag atg 387
 Gln Gly Gly Leu Ala Asn Cys Val Leu Ala Leu Gly Phe Glu Lys Met
 110 115 120
 gag agg gga tcc att gga aca aaa ttc tca gat cgg acc act cca act 435
 Glu Arg Gly Ser Ile Gly Thr Lys Phe Ser Asp Arg Thr Thr Pro Thr
 125 130 135 140
 gat aaa cat att gaa gtc ttg atc gat aag tat gga ttg tct gca cat 483
 Asp Lys His Ile Glu Val Leu Ile Asp Lys Tyr Gly Leu Ser Ala His
 145 150 155
 ccg att act cct cag atg ttt ggg tat gct ggg aaa gaa cat atg gaa 531
 Pro Ile Thr Pro Gln Met Phe Gly Tyr Ala Gly Lys Glu His Met Glu
 160 165 170
 aaa tat gga aca aaa gtt gaa cac ttt gca aaa att gga tgg aaa aat 579
 Lys Tyr Gly Thr Lys Val Glu His Phe Ala Lys Ile Gly Trp Lys Asn
 175 180 185
 cat aaa cac tca gtt aat aac acg tat tcc cag ttc caa gat gaa tac 627
 His Lys His Ser Val Asn Asn Thr Tyr Ser Gln Phe Gln Asp Glu Tyr
 190 195 200
 agc tta gaa gaa gta atg aaa tca aaa cca gtt ttc gat ttt ctg act 675
 Ser Leu Glu Glu Val Met Lys Ser Lys Pro Val Phe Asp Phe Leu Thr
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Glu Ile Val Ala Gln Glu Met Met Thr Asp Leu Pro Ser Thr Phe Glu	
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Glu Lys Ser Ile Ile Lys Val Val Gly Tyr Asp Met Ser Lys Glu Ala	
270 275 280	
gcc agg aga tgc tat gag aag tcc ggc ctg aca ccc aac gat gtc gac	915
Ala Arg Arg Cys Tyr Glu Lys Ser Gly Leu Thr Pro Asn Asp Val Asp	
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gtg ata gag ctt cac gat tgc ttc tct gtc aat gaa ctc atc act tac	963
Val Ile Glu Leu His Asp Cys Phe Ser Val Asn Glu Leu Ile Thr Tyr	
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Arg Gly Asp Asn Thr Tyr Gly Gly Lys Trp Val Ile Asn Pro Ser Gly	
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Gly Leu Ile Ser Lys Gly His Pro Leu Gly Ala Thr Gly Leu Ala Gln	
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Cys Ala Glu Leu Cys Trp Gln Leu Arg Gly Glu Ala Gly Lys Arg Gln	
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Val Pro Gly Ala Lys Val Ala Leu Gln His Asn Leu Gly Leu Gly Gly	
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Ala Val Val Val Thr Leu Tyr Arg Met Gly Phe Pro Glu Ala Ala Ser	

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Ser Phe Arg Thr His Gln Val Ser Ala Ala Pro Thr Ser Ser Ala Gly			
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Asp Gly Phe Lys Ala Asn Leu Val Phe Lys Glu Ile Glu Lys Lys Leu			
430	435	440	
gaa gag gaa ggg gaa cag ttc gtg aag aaa atc ggt ggc att ttt gcc			1395
Glu Glu Glu Gly Glu Gln Phe Val Lys Lys Ile Gly Gly Ile Phe Ala			
445	450	455	460
ttc aaa gtg aaa gat ggc cct gga ggc aaa gaa gct acc tgg gtg gtg			1443
Phe Lys Val Lys Asp Gly Pro Gly Gly Lys Glu Ala Thr Trp Val Val			
465	470	475	
gat gtg aag aat ggc aaa gga tct gtg ctt ccc aat tca gat aag aag			1491
Asp Val Lys Asn Gly Lys Gly Ser Val Leu Pro Asn Ser Asp Lys Lys			
480	485	490	
gct gac tgc aca atc acc atg gcc gac tca gac ttg ctg gct ttg atg			1539
Ala Asp Cys Thr Ile Thr Met Ala Asp Ser Asp Leu Leu Ala Leu Met			
495	500	505	
act gga aaa atg aac cct cag tgc gcc ttc ttt caa ggg aaa ctg aag			1587
Thr Gly Lys Met Asn Pro Gln Ser Ala Phe Phe Gln Gly Lys Leu Lys			
510	515	520	
att gct ggt aac atg gga ctg gcc atg aaa cta cag aac ctt cag ctt			1635
Ile Ala Gly Asn Met Gly Leu Ala Met Lys Leu Gln Asn Leu Gln Leu			
525	530	535	540
cag ccg ggc aaa gct aag ctg tga ggagtcctt tggcaacctc aggacatcaa			1689
Gln Pro Gly Lys Ala Lys Leu			
545			
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aagtatattt gaggatcact gtgttggaca ctcggtgtga catttctcct tggggggact 2049
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<210> 843

<211> 547

<212> PRT

<213> Mus musculus

<400> 843

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Arg Asp Tyr Pro Asp Met Ala Lys Glu Ala Gly Gln Lys Ala Leu Glu
      35             40             45
Asp Ala Gln Ile Pro Tyr Ser Ala Val Glu Gln Ala Cys Val Gly Tyr
      50             55             60
Val Tyr Gly Asp Ser Thr Ser Gly Gln Arg Ala Ile Tyr His Ser Leu
      65             70             75             80
Gly Leu Thr Gly Ile Pro Ile Ile Asn Val Asn Asn Asn Cys Ser Thr
      85             90             95
Gly Ser Thr Ala Leu Phe Met Ala His Gln Leu Ile Gln Gly Gly Leu
      100            105            110
Ala Asn Cys Val Leu Ala Leu Gly Phe Glu Lys Met Glu Arg Gly Ser

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115	120	125
Ile Gly Thr Lys Phe Ser Asp Arg Thr Thr Pro Thr Asp Lys His Ile		
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Glu Val Leu Ile Asp Lys Tyr Gly Leu Ser Ala His Pro Ile Thr Pro		
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Gln Met Phe Gly Tyr Ala Gly Lys Glu His Met Glu Lys Tyr Gly Thr		160
	165	170
Lys Val Glu His Phe Ala Lys Ile Gly Trp Lys Asn His Lys His Ser		175
	180	185
Val Asn Asn Thr Tyr Ser Gln Phe Gln Asp Glu Tyr Ser Leu Glu Glu		190
	195	200
Val Met Lys Ser Lys Pro Val Phe Asp Phe Leu Thr Ile Leu Gln Cys		205
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Cys Pro Thr Ser Asp Gly Ala Cys Ala Ala Ile Leu Ser Ser Glu Glu		220
225	230	235
Phe Val Gln Gln Tyr Gly Leu Gln Ser Lys Ala Val Glu Ile Val Ala		240
	245	250
Gln Glu Met Met Thr Asp Leu Pro Ser Thr Phe Glu Glu Lys Ser Ile		255
	260	265
Ile Lys Val Val Gly Tyr Asp Met Ser Lys Glu Ala Ala Arg Arg Cys		270
	275	280
Tyr Glu Lys Ser Gly Leu Thr Pro Asn Asp Val Asp Val Ile Glu Leu		285
	290	295
His Asp Cys Phe Ser Val Asn Glu Leu Ile Thr Tyr Glu Ala Leu Gly		300
305	310	315
Leu Cys Pro Glu Gly Gln Gly Gly Thr Leu Val Asp Arg Gly Asp Asn		320
	325	330
Thr Tyr Gly Gly Lys Trp Val Ile Asn Pro Ser Gly Gly Leu Ile Ser		335
	340	345
		350

Lys Gly His Pro Leu Gly Ala Thr Gly Leu Ala Gln Cys Ala Glu Leu
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 370 375 380
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 Thr Leu Tyr Arg Met Gly Phe Pro Glu Ala Ala Ser Ser Phe Arg Thr
 405 410 415
 His Gln Val Ser Ala Ala Pro Thr Ser Ser Ala Gly Asp Gly Phe Lys
 420 425 430
 Ala Asn Leu Val Phe Lys Glu Ile Glu Lys Lys Leu Glu Glu Glu Gly
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 Glu Gln Phe Val Lys Lys Ile Gly Gly Ile Phe Ala Phe Lys Val Lys
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 Asp Gly Pro Gly Gly Lys Glu Ala Thr Trp Val Val Asp Val Lys Asn
 465 470 475 480
 Gly Lys Gly Ser Val Leu Pro Asn Ser Asp Lys Lys Ala Asp Cys Thr
 485 490 495
 Ile Thr Met Ala Asp Ser Asp Leu Leu Ala Leu Met Thr Gly Lys Met
 500 505 510
 Asn Pro Gln Ser Ala Phe Phe Gln Gly Lys Leu Lys Ile Ala Gly Asn
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 Met Gly Leu Ala Met Lys Leu Gln Asn Leu Gln Leu Gln Pro Gly Lys
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 Ala Lys Leu
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<210> 844

<211> 736

<212> DNA

<213> Mus musculus

<400> 844

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aaatagtgat tcatgaacat atctctctgc agatgatctg agatttagct atgggcatta 660
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736

<210> 845

<211> 802

<212> DNA

<213> Mus musculus

<400> 845

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gacagattcc aatctacatc tacagacaca ttctggatac cgagtagaac ttgatttccc 180
tcctcaact gtctttctc agctccttcc tctaattttt gacttccaca tcttttttac 240
catgttagtc tgactataga aaacacccctg tggatgaaggc caggcagctt atcaggagac 300

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acctatgcac cagagtaata caggagtgat tctgccaacc aggatacgca gcatttcate 360
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 ttgactggga agaatatcaa tgtggggggg gggggccagg aacagaagag cccacaatat 480
 cggggaaagc taagttagcc agggatatgaa tatgagcacc tgaacaaaaa cctggagcta 540
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 ccttgagaag caagggtga gaactgggtc tgctccccta tgttccacac ctctgtgccc 660
 ttcatacccc tgcctctcat tttctcctac cttatttctc tgagaaccaa tgtggttttt 720
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<210> 846

<211> 3524

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (256).. (2274)

<400> 846

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 agccgcccgg ctctccccgg caccgcccgc accaccgcac ctcatcagca ccgccacctc 180
 gccgccgccc ccgcccaccc cggccctccc cggctgtgtc tcccggcgcg aggcaagagg 240
 tggttggggg gaacc atg gct gac gtt tac ccg gcc aac gac tcc acg gcg 291

Met Ala Asp Val Tyr Pro Ala Asn Asp Ser Thr Ala

1

5

10

tct cag gac gtg gcc aac cgc ttc gcc cgc aaa ggg gcg ctg agg cag 339
 Ser Gln Asp Val Ala Asn Arg Phe Ala Arg Lys Gly Ala Leu Arg Gln

15	20	25	
aag aac gtg cat gag gtg aaa gac cac aaa ttc atc gcc cgc ttc ttc			387
Lys Asn Val His Glu Val Lys Asp His Lys Phe Ile Ala Arg Phe Phe			
30	35	40	
aag caa ccc acc ttc tgc agc cac tgc acc gac ttc atc tgg ggg ttt			435
Lys Gln Pro Thr Phe Cys Ser His Cys Thr Asp Phe Ile Trp Gly Phe			
45	50	55	60
ggg aaa caa ggc ttc cag tgc caa gtt tgc tgt ttt gtg gtt cat aag			483
Gly Lys Gln Gly Phe Gln Cys Gln Val Cys Cys Phe Val Val His Lys			
65	70	75	
agg tgc cat gag ttc gtt acg ttc tct tgt ccg ggt gcg gat aag gga			531
Arg Cys His Glu Phe Val Thr Phe Ser Cys Pro Gly Ala Asp Lys Gly			
80	85	90	
cct gac act gac gac ccc agg agc aag cac aag ttc aaa atc cac aca			579
Pro Asp Thr Asp Asp Pro Arg Ser Lys His Lys Phe Lys Ile His Thr			
95	100	105	
tac gga agc cct acc ttc tgt gat cac tgt ggg tcc ctg ctc tat gga			627
Tyr Gly Ser Pro Thr Phe Cys Asp His Cys Gly Ser Leu Leu Tyr Gly			
110	115	120	
ctt atc cac caa ggg atg aaa tgt gac acc tgc gac atg aat gtt cac			675
Leu Ile His Gln Gly Met Lys Cys Asp Thr Cys Asp Met Asn Val His			
125	130	135	140
aac cag tgt gtg atc aat gac cct agc ctc tgc gga atg gat cac aca			723
Asn Gln Cys Val Ile Asn Asp Pro Ser Leu Cys Gly Met Asp His Thr			
145	150	155	
gag aag agg ggg cgg att tat ctg aag gct gag gtc act gat gaa aag			771
Glu Lys Arg Gly Arg Ile Tyr Leu Lys Ala Glu Val Thr Asp Glu Lys			
160	165	170	
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Leu His Val Thr Val Arg Asp Ala Lys Asn Leu Ile Pro Met Asp Pro	
175	180
185	
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Asn Gly Leu Ser Asp Pro Tyr Val Lys Leu Lys Leu Ile Pro Asp Pro	
190	195
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aag aat gag agc aaa cag aaa acc aaa acc atc cgc tcc aac ctg aat	915
Lys Asn Glu Ser Lys Gln Lys Thr Lys Thr Ile Arg Ser Asn Leu Asn	
205	210
215	220
cct cag tgg aat gag tcc ttc acg ttc aaa tta aaa cct tca gac aaa	963
Pro Gln Trp Asn Glu Ser Phe Thr Phe Lys Leu Lys Pro Ser Asp Lys	
225	230
235	
gac cgg cga ctg tct gta gaa atc tgg gac tgg gat cgg acg act cgg	1011
Asp Arg Arg Leu Ser Val Glu Ile Trp Asp Trp Asp Arg Thr Thr Arg	
240	245
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Asn Asp Phe Met Gly Ser Leu Ser Phe Gly Val Ser Glu Leu Met Lys	
255	260
265	
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Met Pro Ala Ser Gly Trp Tyr Lys Ala His Asn Gln Glu Glu Gly Glu	
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280	
tat tac aac gtg ccc att cca gaa gga gat gaa gaa ggc aac atg gaa	1155
Tyr Tyr Asn Val Pro Ile Pro Glu Gly Asp Glu Glu Gly Asn Met Glu	
285	290
295	300
ctc agg cag aag ttt gag aaa gcc aag cta ggt cct gtt ggt aac aaa	1203
Leu Arg Gln Lys Phe Glu Lys Ala Lys Leu Gly Pro Val Gly Asn Lys	
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Val Ile Ser Pro Ser Glu Asp Arg Lys Gln Pro Ser Asn Asn Leu Asp	
320	325
330	

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 Arg Val Lys Leu Thr Asp Phe Asn Phe Leu Met Val Leu Gly Lys Gly
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 Ser Phe Gly Lys Val Met Leu Ala Asp Arg Lys Gly Thr Glu Glu Leu
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 Ala Glu Ile Ser Ile Gly Leu Phe Phe Leu His Lys Arg Gly Ile Ile
 445 450 455 460
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 Ile Lys Ile Ala Asp Phe Gly Met Cys Lys Glu His Met Met Asp Gly

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Val Thr Thr Arg Thr Phe Cys Gly Thr Pro Asp Tyr Ile Ala Pro Glu			
495	500	505	
ata atc gct tac cag ccg tac ggg aag tct gta gat tgg tgg gcg tac			1827
Ile Ile Ala Tyr Gln Pro Tyr Gly Lys Ser Val Asp Trp Trp Ala Tyr			
510	515	520	
ggg gtg ctg ctg tac gag atg cta gcc ggg cag cct ccg ttt gat ggt			1875
Gly Val Leu Leu Tyr Glu Met Leu Ala Gly Gln Pro Pro Phe Asp Gly			
525	530	535	540
gaa gat gaa gat gaa ctg ttt cag tct ata atg gag cac aac gtg tcc			1923
Glu Asp Glu Asp Glu Leu Phe Gln Ser Ile Met Glu His Asn Val Ser			
545	550	555	
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Tyr Pro Lys Ser Leu Ser Lys Glu Ala Val Ser Ile Cys Lys Gly Leu			
560	565	570	
atg acc aaa cag cct gcc aag cga ctg ggc tgc ggg ccc gag gga gag			2019
Met Thr Lys Gln Pro Ala Lys Arg Leu Gly Cys Gly Pro Glu Gly Glu			
575	580	585	
agg gat gtc aga gag cat gcc ttc ttc agg agg atc gac tgg gag aaa			2067
Arg Asp Val Arg Glu His Ala Phe Phe Arg Arg Ile Asp Trp Glu Lys			
590	595	600	
ctg gag aac agg gag atc caa cca cca ttc aag ccc aaa gtg tgt ggc			2115
Leu Glu Asn Arg Glu Ile Gln Pro Pro Phe Lys Pro Lys Val Cys Gly			
605	610	615	620
aaa gga gca gaa aac ttt gac aag ttc ttc acg cga gga cag cct gtc			2163
Lys Gly Ala Glu Asn Phe Asp Lys Phe Phe Thr Arg Gly Gln Pro Val			
625	630	635	
tta aca cca cca gat cag ctg gtc att gct aac ata gac caa tct gat			2211

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 Phe Glu Gly Phe Ser Tyr Val Asn Pro Gln Phe Val His Pro Ile Leu
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 Gln Ser Ala Val
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 ggctttgcta aacaagcata tgaatcatt tcagatcaag gataaacat gtgtacgttc 3034
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 ctcagtcctt ctagattgat tttctctctt tctctcgccc cacatccact tagagatgaa 3334
 aaagagcata gtttgggttc ccattctcag ttcttattga acggcacatg tggaactgta 3394
 ggatcaagat actttatgct gacatcaact ctttgatgtt gtcttgctag aaggatttta 3454
 atatgttttg cgagtgcac atgcaatgga ttttgcatgt ttataataaa ccttaataac 3514
 gagttaagtg 3524

<210> 847

<211> 672

<212> PRT

<213> Mus musculus

<400> 847

Met Ala Asp Val Tyr Pro Ala Asn Asp Ser Thr Ala Ser Gln Asp Val

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20 25 30

Glu Val Lys Asp His Lys Phe Ile Ala Arg Phe Phe Lys Gln Pro Thr

35 40 45

Phe Cys Ser His Cys Thr Asp Phe Ile Trp Gly Phe Gly Lys Gln Gly

50 55 60

Phe Gln Cys Gln Val Cys Cys Phe Val Val His Lys Arg Cys His Glu

65 70 75 80

Phe Val Thr Phe Ser Cys Pro Gly Ala Asp Lys Gly Pro Asp Thr Asp

85 90 95

Asp Pro Arg Ser Lys His Lys Phe Lys Ile His Thr Tyr Gly Ser Pro

100 105 110

Thr Phe Cys Asp His Cys Gly Ser Leu Leu Tyr Gly Leu Ile His Gln

115 120 125

~~Gly Met Lys Cys Asp Thr Cys Asp Met Asn Val His Asn Gln Cys Val~~

130 135 140

Ile Asn Asp Pro Ser Leu Cys Gly Met Asp His Thr Glu Lys Arg Gly

145 150 155 160

Arg Ile Tyr Leu Lys Ala Glu Val Thr Asp Glu Lys Leu His Val Thr

165 170 175

Val Arg Asp Ala Lys Asn Leu Ile Pro Met Asp Pro Asn Gly Leu Ser
 180 185 190
 Asp Pro Tyr Val Lys Leu Lys Leu Ile Pro Asp Pro Lys Asn Glu Ser
 195 200 205
 Lys Gln Lys Thr Lys Thr Ile Arg Ser Asn Leu Asn Pro Gln Trp Asn
 210 215 220
 Glu Ser Phe Thr Phe Lys Leu Lys Pro Ser Asp Lys Asp Arg Arg Leu
 225 230 235 240
 Ser Val Glu Ile Trp Asp Trp Asp Arg Thr Thr Arg Asn Asp Phe Met
 245 250 255
 Gly Ser Leu Ser Phe Gly Val Ser Glu Leu Met Lys Met Pro Ala Ser
 260 265 270
 Gly Trp Tyr Lys Ala His Asn Gln Glu Glu Gly Glu Tyr Tyr Asn Val
 275 280 285
 Pro Ile Pro Glu Gly Asp Glu Glu Gly Asn Met Glu Leu Arg Gln Lys
 290 295 300
 Phe Glu Lys Ala Lys Leu Gly Pro Val Gly Asn Lys Val Ile Ser Pro
 305 310 315 320
 Ser Glu Asp Arg Lys Gln Pro Ser Asn Asn Leu Asp Arg Val Lys Leu
 325 330 335
 Thr Asp Phe Asn Phe Leu Met Val Leu Gly Lys Gly Ser Phe Gly Lys
 340 345 350
 Val Met Leu Ala Asp Arg Lys Gly Thr Glu Glu Leu Tyr Ala Ile Lys
 355 360 365
 Ile Leu Lys Lys Asp Val Val Ile Gln Asp Asp Asp Val Glu Cys Thr
 370 375 380
 Met Val Glu Lys Arg Val Leu Ala Leu Leu Asp Lys Pro Pro Phe Leu
 385 390 395 400
 Thr Gln Leu His Ser Cys Phe Gln Thr Val Asp Arg Leu Tyr Phe Val

	405	410	415
Met Glu Tyr Val Asn Gly Gly Asp Leu Met Tyr His Ile Gln Gln Val			
	420	425	430
Gly Lys Phe Lys Glu Pro Gln Ala Val Phe Tyr Ala Ala Glu Ile Ser			
	435	440	445
Ile Gly Leu Phe Phe Leu His Lys Arg Gly Ile Ile Tyr Arg Asp Leu			
	450	455	460
Lys Leu Asn Asn Val Met Leu Asn Ser Glu Gly His Ile Lys Ile Ala			
465	470	475	480
Asp Phe Gly Met Cys Lys Glu His Met Met Asp Gly Val Thr Thr Arg			
	485	490	495
Thr Phe Cys Gly Thr Pro Asp Tyr Ile Ala Pro Glu Ile Ile Ala Tyr			
	500	505	510
Gln Pro Tyr Gly Lys Ser Val Asp Trp Trp Ala Tyr Gly Val Leu Leu			
	515	520	525
Tyr Glu Met Leu Ala Gly Gln Pro Pro Phe Asp Gly Glu Asp Glu Asp			
530	535	540	
Glu Leu Phe Gln Ser Ile Met Glu His Asn Val Ser Tyr Pro Lys Ser			
545	550	555	560
Leu Ser Lys Glu Ala Val Ser Ile Cys Lys Gly Leu Met Thr Lys Gln			
	565	570	575
Pro Ala Lys Arg Leu Gly Cys Gly Pro Glu Gly Glu Arg Asp Val Arg			
	580	585	590
Glu His Ala Phe Phe Arg Arg Ile Asp Trp Glu Lys Leu Glu Asn Arg			
	595	600	605
Glu Ile Gln Pro Pro Phe Lys Pro Lys Val Cys Gly Lys Gly Ala Glu			
	610	615	620
Asn Phe Asp Lys Phe Phe Thr Arg Gly Gln Pro Val Leu Thr Pro Pro			
625	630	635	640

2058/2644

55	60	65	70	
tgt acc atc cct gag atc tgg acc tgg ctt cgg aat tct ctg cgg ccc	294			
Cys Thr Ile Pro Glu Ile Trp Thr Trp Leu Arg Asn Ser Leu Arg Pro				
75	80	85		
agc ccc tcg ttc acc cat ttc ctg ctg aca cat gga tac tgg ctc tgg	342			
Ser Pro Ser Phe Thr His Phe Leu Leu Thr His Gly Tyr Trp Leu Trp				
90	95	100		
gaa ttt gtg aat gcc acc ttc atc cga gaa gta ctc atg cgc ctg gta	390			
Glu Phe Val Asn Ala Thr Phe Ile Arg Glu Val Leu Met Arg Leu Val				
105	110	115		
ctc aca gtg cgg tcc aac ctt atc ccc agc cct ccg acc tac aac tca	438			
Leu Thr Val Arg Ser Asn Leu Ile Pro Ser Pro Pro Thr Tyr Asn Ser				
120	125	130		
gcg cat gac tac atc agc tgg gag tcc ttc tcc aat gtg agc tac tat	486			
Ala His Asp Tyr Ile Ser Trp Glu Ser Phe Ser Asn Val Ser Tyr Tyr				
135	140	145	150	
act cgc att ctg ccc tct gta ccc aaa gac tgc ccc aca ccc atg ggg	534			
Thr Arg Ile Leu Pro Ser Val Pro Lys Asp Cys Pro Thr Pro Met Gly				
155	160	165		
acc aaa ggg aag aaa cag tta cca gat gtt cag ctt ctg gcc caa cag	582			
Thr Lys Gly Lys Lys Gln Leu Pro Asp Val Gln Leu Leu Ala Gln Gln				
170	175	180		
ctg ctg ctg aga agg gag ttc att cct gcc ccc cag ggc acc aac atc	630			
Leu Leu Leu Arg Arg Glu Phe Ile Pro Ala Pro Gln Gly Thr Asn Ile				
185	190	195		
ctg ttt gcc ttc ttt gca caa cac ttc acc cac cag ttc ttc aag acc	678			
Leu Phe Ala Phe Phe Ala Gln His Phe Thr His Gln Phe Phe Lys Thr				
200	205	210		
tct gga aag atg ggt cct ggc ttt acc aag gcc tta ggc cac ggg gta	726			

tat cga aac cgc atc gcc atg gaa ttt aac cat ctc tat cac tgg cat	1206
Tyr Arg Asn Arg Ile Ala Met Glu Phe Asn His Leu Tyr His Trp His	
375 380 385 390	
cca ctc atg ccc aac tcc ttc caa gtg ggc tca caa gag tac agc tac	1254
Pro Leu Met Pro Asn Ser Phe Gln Val Gly Ser Gln Glu Tyr Ser Tyr	
395 400 405	
gag cag ttt tta ttt aac act tct atg ctg gtg gac tat ggg gtt gag	1302
Glu Gln Phe Leu Phe Asn Thr Ser Met Leu Val Asp Tyr Gly Val Glu	
410 415 420	
gca ctg gtg gat gcc ttc tct cgc cag agg gct ggc cgg att ggt gga	1350
Ala Leu Val Asp Ala Phe Ser Arg Gln Arg Ala Gly Arg Ile Gly Gly	
425 430 435	
ggt agg aac ttt gac tat cat gtt ctg cat gtg gct gtg gat gtc atc	1398
Gly Arg Asn Phe Asp Tyr His Val Leu His Val Ala Val Asp Val Ile	
440 445 450	
aag gag tcc cga gag atg cgc cta cag ccc ttc aat gaa tac cga aag	1446
Lys Glu Ser Arg Glu Met Arg Leu Gln Pro Phe Asn Glu Tyr Arg Lys	
455 460 465 470	
agg ttt ggc ttg aag cct tac acc tct ttc cag gag ctc aca gga gag	1494
Arg Phe Gly Leu Lys Pro Tyr Thr Ser Phe Gln Glu Leu Thr Gly Glu	
475 480 485	
aag gag atg gct gct gag ttg gag gag ctg tac ggt gac atc gat gct	1542
Lys Glu Met Ala Ala Glu Leu Glu Glu Leu Tyr Gly Asp Ile Asp Ala	
490 495 500	
tta gag ttc tac ccg ggg ttg ctg ctg gag aag tgc cag ccc aac tcc	1590
Leu Glu Phe Tyr Pro Gly Leu Leu Leu Glu Lys Cys Gln Pro Asn Ser	
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atc ttt gga gaa agt atg ata gag atg ggg gct ccc ttt tcc ctc aag	1638
Ile Phe Gly Glu Ser Met Ile Glu Met Gly Ala Pro Phe Ser Leu Lys	

520 525 530
 ggc ctc cta ggg aat ccc atc tgt tcc cca gag tac tgg aaa ccc agc 1686
 Gly Leu Leu Gly Asn Pro Ile Cys Ser Pro Glu Tyr Trp Lys Pro Ser
 535 540 545 550
 acg ttc ggt ggt gac gtg ggc ttc aac ctt gtc aac aca gcc tca ctg 1734
 Thr Phe Gly Gly Asp Val Gly Phe Asn Leu Val Asn Thr Ala Ser Leu
 555 560 565
 aag aaa ctg gtc tgc ctc aac acc aag acc tgc ccc tat gtt tcc ttc 1782
 Lys Lys Leu Val Cys Leu Asn Thr Lys Thr Cys Pro Tyr Val Ser Phe
 570 575 580
 cgt gtg cca gat tac cct gga gat gac ggg tct gtc tta gtg aga cgc 1830
 Arg Val Pro Asp Tyr Pro Gly Asp Asp Gly Ser Val Leu Val Arg Arg
 585 590 595
 tcc act gag ctc tga gggagctgga aagcagcctc tggagggagg agttttgttc 1885
 Ser Thr Glu Leu
 600
 ctgatgaaga caagtccttg atgtgggttt tegtggcttg gcattgtgag agctgatgct 1945
 cacatttgaa actttgggtc ttacccttgc ctagaaaatt gtgattttgc cactttcggga 2005
 tgttgaattc tttgttaact aagaaagtta gaagtgggtt tgtctgccic ctcagaactt 2065
 ggctctttgt tggcaactca gaaagtcaga ttictggttg atttgggaata taggcttaaa 2125
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 aagggtttct tgggagccac acttagactc tticcaaaga tgtggaggga acagatggac 2665

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<210> 849

<211> 602

<212> PRT

<213> Mus musculus

<400> 849

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 Ser Pro Val Asn Pro Cys Cys Tyr Tyr Pro Cys Gln Asn Gln Gly Val
 35 40 45
 Cys Val Arg Phe Gly Leu Asp Asn Tyr Gln Cys Asp Cys Thr Arg Thr
 50 55 60
 Gly Tyr Ser Gly Pro Asn Cys Thr Ile Pro Glu Ile Trp Thr Trp Leu
 65 70 75 80
 Arg Asn Ser Leu Arg Pro Ser Pro Ser Phe Thr His Phe Leu Leu Thr
 85 90 95
 His Gly Tyr Trp Leu Trp Glu Phe Val Asn Ala Thr Phe Ile Arg Glu
 100 105 110
 Val Leu Met Arg Leu Val Leu Thr Val Arg Ser Asn Leu Ile Pro Ser
 115 120 125
 Pro Pro Thr Tyr Asn Ser Ala His Asp Tyr Ile Ser Trp Glu Ser Phe
 130 135 140
 Ser Asn Val Ser Tyr Tyr Thr Arg Ile Leu Pro Ser Val Pro Lys Asp
 145 150 155 160

Cys Pro Thr Pro Met Gly Thr Lys Gly Lys Lys Gln Leu Pro Asp Val
 165 170 175
 Gln Leu Leu Ala Gln Gln Leu Leu Leu Arg Arg Glu Phe Ile Pro Ala
 180 185 190
 Pro Gln Gly Thr Asn Ile Leu Phe Ala Phe Phe Ala Gln His Phe Thr
 195 200 205
 His Gln Phe Phe Lys Thr Ser Gly Lys Met Gly Pro Gly Phe Thr Lys
 210 215 220
 Ala Leu Gly His Gly Val Asp Leu Gly His Ile Tyr Gly Asp Asn Leu
 225 230 235 240
 Glu Arg Gln Tyr His Leu Arg Leu Phe Lys Asp Gly Lys Leu Lys Tyr
 245 250 255
 Gln Val Leu Asp Gly Glu Val Tyr Pro Pro Ser Val Glu Gln Ala Ser
 260 265 270
 Val Leu Met Arg Tyr Pro Pro Gly Val Pro Pro Glu Arg Gln Met Ala
 275 280 285
 Val Gly Gln Glu Val Phe Gly Leu Leu Pro Gly Leu Met Leu Phe Ser
 290 295 300
 Thr Ile Trp Leu Arg Glu His Asn Arg Val Cys Asp Leu Leu Lys Glu
 305 310 315 320
 Glu His Pro Thr Trp Asp Asp Glu Gln Leu Phe Gln Thr Thr Arg Leu
 325 330 335
 Ile Leu Ile Gly Glu Thr Ile Lys Ile Val Ile Glu Glu Tyr Val Gln
 340 345 350
 His Leu Ser Gly Tyr Phe Leu Gln Leu Lys Phe Asp Pro Glu Leu Leu
 355 360 365
 Phe Arg Ala Gln Phe Gln Tyr Arg Asn Arg Ile Ala Met Glu Phe Asn
 370 375 380
 His Leu Tyr His Trp His Pro Leu Met Pro Asn Ser Phe Gln Val Gly

385	390	395	400
Ser Gln Glu Tyr	Ser Tyr Glu Gln Phe Leu	Phe Asn Thr Ser Met Leu	
405	410	415	
Val Asp Tyr Gly	Val Glu Ala Leu Val Asp Ala Phe Ser Arg Gln Arg		
420	425	430	
Ala Gly Arg Ile	Gly Gly Gly Arg Asn Phe Asp Tyr His Val Leu His		
435	440	445	
Val Ala Val Asp	Val Ile Lys Glu Ser Arg Glu Met Arg Leu Gln Pro		
450	455	460	
Phe Asn Glu Tyr	Arg Lys Arg Phe Gly Leu Lys Pro Tyr Thr Ser Phe		
465	470	475	480
Gln Glu Leu Thr	Gly Glu Lys Glu Met Ala Ala Glu Leu Glu Glu Leu		
485	490	495	
Tyr Gly Asp Ile	Asp Ala Leu Glu Phe Tyr Pro Gly Leu Leu Leu Glu		
500	505	510	
Lys Cys Gln Pro	Asn Ser Ile Phe Gly Glu Ser Met Ile Glu Met Gly		
515	520	525	
Ala Pro Phe Ser	Leu Lys Gly Leu Leu Gly Asn Pro Ile Cys Ser Pro		
530	535	540	
Glu Tyr Trp Lys	Pro Ser Thr Phe Gly Gly Asp Val Gly Phe Asn Leu		
545	550	555	560
Val Asn Thr Ala	Ser Leu Lys Lys Leu Val Cys Leu Asn Thr Lys Thr		
565	570	575	
Cys Pro Tyr Val	Ser Phe Arg Val Pro Asp Tyr Pro Gly Asp Asp Gly		
580	585	590	
Ser Val Leu Val	Arg Arg Ser Thr Glu Leu		
595	600		

<210> 850

<211> 509

<212> DNA

<213> Mus musculus

<400> 850

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 gacatcaacc agagtgtcaa gtttcagcct cttagcaagt acccgcgcgt gttcaatgac 180
 atttcattct ggctgccctc tgagaactac acggagaatg atttctatga catcgctccga 240
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 cagagagaag tcggcaatgt ccaccaggct gtgcaggagg ccgccgtgca gctgctgggt 420
 gtggaggggc gtttctgatg cagtggcagt ccacaggcca cagccctcat agagctccag 480
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<210> 851

<211> 1941

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (161).. (643)

<400> 851

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 ccggccgccc ctgcagtggc cgctccctgg gccgtaggaa atg agc gat aac gat 175

Met Ser Asp Asn Asp

	1	5	
gac atc gag gtg gag agc gac gaa gag caa gcg agg ttt caa tct gcg			223
Asp Ile Glu Val Glu Ser Asp Glu Glu Gln Ala Arg Phe Gln Ser Ala			
10	15	20	
gct gac aag cgg gct cac cat aat gca ctg gaa cga aaa cgt agg gac			271
Ala Asp Lys Arg Ala His His Asn Ala Leu Glu Arg Lys Arg Arg Asp			
25	30	35	
cac atc aaa gac agc ttt cac agt ttg cgg gac tca gtc cca tca ctc			319
His Ile Lys Asp Ser Phe His Ser Leu Arg Asp Ser Val Pro Ser Leu			
40	45	50	
caa gga gag aag gca tcc cgg gcc caa atc cta gac aaa gca aca gag			367
Gln Gly Glu Lys Ala Ser Arg Ala Gln Ile Leu Asp Lys Ala Thr Glu			
55	60	65	
tat atc cag tat atg cga agg aaa aac gat acg cac cag caa gac att			415
Tyr Ile Gln Tyr Met Arg Arg Lys Asn Asp Thr His Gln Gln Asp Ile			
70	75	80	85
gat gac ctc aag cgg cag aat gct ctt ctg gag caa caa gtc cgt gca			463
Asp Asp Leu Lys Arg Gln Asn Ala Leu Leu Glu Gln Gln Val Arg Ala			
90	95	100	
ctg gag aag gca aga tca agt gcc caa ctg cag acc aac tac ccc tcc			511
Leu Glu Lys Ala Arg Ser Ser Ala Gln Leu Gln Thr Asn Tyr Pro Ser			
105	110	115	
tca gac aac agc ctc tac acc aac gcc aag ggc ggc acc atc tct gcc			559
Ser Asp Asn Ser Leu Tyr Thr Asn Ala Lys Gly Gly Thr Ile Ser Ala			
120	125	130	
ttc gat ggg ggt tca gac tcc agc tca gaa tcc gag cct gaa gag ccc			607
Phe Asp Gly Gly Ser Asp Ser Ser Ser Glu Ser Glu Pro Glu Glu Pro			
135	140	145	
cag agc agg aag aaa ctc cgg atg gag gcc agc taa gccatgcggg			653

Gln Ser Arg Lys Lys Leu Arg Met Glu Ala Ser

150

155

160

gcaggccagc aataaaactg tcgactctct cgtcgcatcc tccttctgtt catcattaga 713
 accctcagaa ccattgagaa gactctttat ttcccttttc tctttattaa ttgttatttt 773
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 ataaataaaa acttatttta tccttgtc 1941

<210> 852

<211> 160

<212> PRT

<213> Mus musculus

<400> 852

Met Ser Asp Asn Asp Asp Ile Glu Val Glu Ser Asp Glu Glu Gln Ala
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Arg Phe Gln Ser Ala Ala Asp Lys Arg Ala His His Asn Ala Leu Glu
20 25 30
Arg Lys Arg Arg Asp His Ile Lys Asp Ser Phe His Ser Leu Arg Asp
35 40 45
Ser Val Pro Ser Leu Gln Gly Glu Lys Ala Ser Arg Ala Gln Ile Leu
50 55 60
Asp Lys Ala Thr Glu Tyr Ile Gln Tyr Met Arg Arg Lys Asn Asp Thr
65 70 75 80
His Gln Gln Asp Ile Asp Asp Leu Lys Arg Gln Asn Ala Leu Leu Glu
85 90 95
Gln Gln Val Arg Ala Leu Glu Lys Ala Arg Ser Ser Ala Gln Leu Gln
100 105 110
Thr Asn Tyr Pro Ser Ser Asp Asn Ser Leu Tyr Thr Asn Ala Lys Gly
115 120 125
Gly Thr Ile Ser Ala Phe Asp Gly Gly Ser Asp Ser Ser Ser Glu Ser
130 135 140
Glu Pro Glu Glu Pro Gln Ser Arg Lys Lys Leu Arg Met Glu Ala Ser
145 150 155 160

<210> 853

<211> 2844

<212> DNA

<213> *Mus musculus*

<220>

<221> CDS

<222> (230).. (1564)

<400> 853

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 gggcttcaga gccgccagcc tccgcacggt ttgcggtggt gacccgggcg cgactcgacg 180
 gcgctgctgc gggccttgct ttagtagggg gacccctcgg atctccacc atg gcg tcc 238

Met Ala Ser

1

acg aac acc aac ctg cag aaa gca ata gat ctt gca agc aaa gca gcc 286
 Thr Asn Thr Asn Leu Gln Lys Ala Ile Asp Leu Ala Ser Lys Ala Ala

5

10

15

cag gaa gac aaa gct ggg aac tat gag gaa gct ctt caa ctc tac caa 334
 Gln Glu Asp Lys Ala Gly Asn Tyr Glu Glu Ala Leu Gln Leu Tyr Gln

20

25

30

35

cat gct gtg cag tat ttt ctc cat gtt gtt aaa tat gaa gca caa ggt 382
 His Ala Val Gln Tyr Phe Leu His Val Val Lys Tyr Glu Ala Gln Gly

40

45

50

gat aaa gcc aag caa agt atc agg gcc aag tgt aca gaa tat ctc gat 430
 Asp Lys Ala Lys Gln Ser Ile Arg Ala Lys Cys Thr Glu Tyr Leu Asp

55

60

65

aga gca gaa aaa cta aag gaa tat ctg aag aaa aag gag aag aaa cca 478
 Arg Ala Glu Lys Leu Lys Glu Tyr Leu Lys Lys Lys Glu Lys Lys Pro

70

75

80

cag aag cct gtg aaa gag gca cag tca ggc cca gtt gat gag aag ggg 526
 Gln Lys Pro Val Lys Glu Ala Gln Ser Gly Pro Val Asp Glu Lys Gly

85

90

95

aat gac agt gat ggg gaa gca gaa tct gat gat cct gaa aaa aag aaa 574

Asn Asp Ser Asp Gly Glu Ala Glu Ser Asp Asp Pro Glu Lys Lys Lys	
100	105 110 115
ctg cag aat caa ctt caa ggt gcc att gtt ata gag cga cca aat gtg	622
Leu Gln Asn Gln Leu Gln Gly Ala Ile Val Ile Glu Arg Pro Asn Val	
120 125 130	
aag tgg agt gat gtt gct ggt ctc gaa gga gcc aaa gaa gct ctt aaa	670
Lys Trp Ser Asp Val Ala Gly Leu Glu Gly Ala Lys Glu Ala Leu Lys	
135 140 145	
gag gct gtg att ctg cct att aag ttt cct cat ctg ttt aca gga aag	718
Glu Ala Val Ile Leu Pro Ile Lys Phe Pro His Leu Phe Thr Gly Lys	
150 155 160	
cgg aca cct tgg aga gga atc cta tta ttt gga cca cca gga aca gga	766
Arg Thr Pro Trp Arg Gly Ile Leu Leu Phe Gly Pro Pro Gly Thr Gly	
165 170 175	
aaa tct tat ttg gct aaa gct gtt gca acg gaa gca aac aac tca aca	814
Lys Ser Tyr Leu Ala Lys Ala Val Ala Thr Glu Ala Asn Asn Ser Thr	
180 185 190 195	
ttt ttc tca ata tct tcc tct gac ctt gtg tct aag tgg ctg ggg gaa	862
Phe Phe Ser Ile Ser Ser Ser Asp Leu Val Ser Lys Trp Leu Gly Glu	
200 205 210	
agc gaa aaa ctg gtt aag aac tta ttc cag ctt gcc aga gag aac aag	910
Ser Glu Lys Leu Val Lys Asn Leu Phe Gln Leu Ala Arg Glu Asn Lys	
215 220 225	
cct tct atc atc ttc atc gat gag att gat tct ctg tgt ggt tcc aga	958
Pro Ser Ile Ile Phe Ile Asp Glu Ile Asp Ser Leu Cys Gly Ser Arg	
230 235 240	
agt gag aat gag agc gag gct gca cgg aga att aag acg gag ttc ctg	1006
Ser Glu Asn Glu Ser Glu Ala Ala Arg Arg Ile Lys Thr Glu Phe Leu	
245 250 255	

gtt caa atg caa gga gtt ggt gtg gac aat gat ggc att ttg gtt ctg 1054
 Val Gln Met Gln Gly Val Gly Val Asp Asn Asp Gly Ile Leu Val Leu
 260 265 270 275
 gga gct aca aat ata ccc tgg gtt ctg gat tct gca att agg cga aga 1102
 Gly Ala Thr Asn Ile Pro Trp Val Leu Asp Ser Ala Ile Arg Arg Arg
 280 285 290
 ttt gag aaa cgt att tat att cct ttg ccc gaa gcc cat gcc cga gca 1150
 Phe Glu Lys Arg Ile Tyr Ile Pro Leu Pro Glu Ala His Ala Arg Ala
 295 300 305
 gcc atg ttt aga ctg cac ttg ggc agc act cag aac agc ctc aca gaa 1198
 Ala Met Phe Arg Leu His Leu Gly Ser Thr Gln Asn Ser Leu Thr Glu
 310 315 320
 gca gac ttc caa gaa ctt ggg agg aag acg gat ggc tat tca gga gta 1246
 Ala Asp Phe Gln Glu Leu Gly Arg Lys Thr Asp Gly Tyr Ser Gly Val
 325 330 335
 gat ata agt atc att gta cgg gat gca ctt atg cag cct gtg aga aaa 1294
 Asp Ile Ser Ile Ile Val Arg Asp Ala Leu Met Gln Pro Val Arg Lys
 340 345 350 355
 gtt cag tca gct act cac ttc aaa aag gtt cgt gga ccc tca aga gct 1342
 Val Gln Ser Ala Thr His Phe Lys Lys Val Arg Gly Pro Ser Arg Ala
 360 365 370
 gat cct aac tgc att gta aat gac ctg ctg aca ccc tgc tct ccg gga 1390
 Asp Pro Asn Cys Ile Val Asn Asp Leu Leu Thr Pro Cys Ser Pro Gly
 375 380 385
 gac cct ggg gct att gaa atg aca tgg atg gat gtt cct gga gat aaa 1438
 Asp Pro Gly Ala Ile Glu Met Thr Trp Met Asp Val Pro Gly Asp Lys
 390 395 400
 ctc ttg gag cca gtt gtt tcc atg tgg gat atg ctg cgg tcc ctg tcc 1486
 Leu Leu Glu Pro Val Val Ser Met Trp Asp Met Leu Arg Ser Leu Ser

405 410 415
 agc aca aag cca aca gtc aat gag cag gac ttg ttg aag ctg aag aag 1534
 Ser Thr Lys Pro Thr Val Asn Glu Gln Asp Leu Leu Lys Leu Lys Lys
 420 425 430 435
 ttt aca gaa gat ttt ggc cag gaa ggc taa cacaagaca gcaagaacat 1584
 Phe Thr Glu Asp Phe Gly Gln Glu Gly
 440 445
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<211> 444

<212> PRT

<213> Mus musculus

<400> 854

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 35 40 45
 Ala Gln Gly Asp Lys Ala Lys Gln Ser Ile Arg Ala Lys Cys Thr Glu
 50 55 60
 Tyr Leu Asp Arg Ala Glu Lys Leu Lys Glu Tyr Leu Lys Lys Lys Glu
 65 70 75 80
 Lys Lys Pro Gln Lys Pro Val Lys Glu Ala Gln Ser Gly Pro Val Asp
 85 90 95
 Glu Lys Gly Asn Asp Ser Asp Gly Glu Ala Glu Ser Asp Asp Pro Glu
 100 105 110
 Lys Lys Lys Leu Gln Asn Gln Leu Gln Gly Ala Ile Val Ile Glu Arg
 115 120 125
 Pro Asn Val Lys Trp Ser Asp Val Ala Gly Leu Glu Gly Ala Lys Glu
 130 135 140
 Ala Leu Lys Glu Ala Val Ile Leu Pro Ile Lys Phe Pro His Leu Phe
 145 150 155 160
 Thr Gly Lys Arg Thr Pro Trp Arg Gly Ile Leu Leu Phe Gly Pro Pro
 165 170 175
 Gly Thr Gly Lys Ser Tyr Leu Ala Lys Ala Val Ala Thr Glu Ala Asn

180	185	190
Asn Ser Thr Phe Phe Ser Ile Ser Ser Ser Asp Leu Val Ser Lys Trp		
195	200	205
Leu Gly Glu Ser Glu Lys Leu Val Lys Asn Leu Phe Gln Leu Ala Arg		
210	215	220
Glu Asn Lys Pro Ser Ile Ile Phe Ile Asp Glu Ile Asp Ser Leu Cys		
225	230	235
Gly Ser Arg Ser Glu Asn Glu Ser Glu Ala Ala Arg Arg Ile Lys Thr		
245	250	255
Glu Phe Leu Val Gln Met Gln Gly Val Gly Val Asp Asn Asp Gly Ile		
260	265	270
Leu Val Leu Gly Ala Thr Asn Ile Pro Trp Val Leu Asp Ser Ala Ile		
275	280	285
Arg Arg Arg Phe Glu Lys Arg Ile Tyr Ile Pro Leu Pro Glu Ala His		
290	295	300
Ala Arg Ala Ala Met Phe Arg Leu His Leu Gly Ser Thr Gln Asn Ser		
305	310	315
Leu Thr Glu Ala Asp Phe Gln Glu Leu Gly Arg Lys Thr Asp Gly Tyr		
325	330	335
Ser Gly Val Asp Ile Ser Ile Ile Val Arg Asp Ala Leu Met Gln Pro		
340	345	350
Val Arg Lys Val Gln Ser Ala Thr His Phe Lys Lys Val Arg Gly Pro		
355	360	365
Ser Arg Ala Asp Pro Asn Cys Ile Val Asn Asp Leu Leu Thr Pro Cys		
370	375	380
Ser Pro Gly Asp Pro Gly Ala Ile Glu Met Thr Trp Met Asp Val Pro		
385	390	395
Gly Asp Lys Leu Leu Glu Pro Val Val Ser Met Trp Asp Met Leu Arg		
405	410	415

Ser Leu Ser Ser Thr Lys Pro Thr Val Asn Glu Gln Asp Leu Leu Lys
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Leu Lys Lys Phe Thr Glu Asp Phe Gly Gln Glu Gly
 435 440

<210> 855

<211> 1509

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (31).. (1368)

<400> 855

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Met Ala Glu Tyr Asp Leu Thr Thr

1

5

cgc atc gcg cat ttt ctg gat cgg cac ctg gtc ttt ccg ctt ctt gag 102

Arg Ile Ala His Phe Leu Asp Arg His Leu Val Phe Pro Leu Leu Glu

10

15

20

ttt ctc tct gtg aaa gag att tat aat gaa aaa gaa tta tta caa gga 150

Phe Leu Ser Val Lys Glu Ile Tyr Asn Glu Lys Glu Leu Leu Gln Gly

25

30

35

40

aaa tta gat ctt ctt agt gat acc aat atg gtg gac ttt gct atg gat 198

Lys Leu Asp Leu Leu Ser Asp Thr Asn Met Val Asp Phe Ala Met Asp

45

50

55

gtt tac aaa aac ctt tat tct gat gat atc cct cat gct ttg aga gaa 246

Val Tyr Lys Asn Leu Tyr Ser Asp Asp Ile Pro His Ala Leu Arg Glu

60	65	70	
aaa aga acc aca gtt gtt gcg cag ctg aaa cag ctc cag gca gaa aca	294		
Lys Arg Thr Thr Val Val Ala Gln Leu Lys Gln Leu Gln Ala Glu Thr			
75	80	85	
gaa cca att gtg aag atg ttt gaa gat cca gaa act aca agg cag atg	342		
Glu Pro Ile Val Lys Met Phe Glu Asp Pro Glu Thr Thr Arg Gln Met			
90	95	100	
cag tca acc agg gat ggc agg atg tta ttt gac tac ctg gca gac aaa	390		
Gln Ser Thr Arg Asp Gly Arg Met Leu Phe Asp Tyr Leu Ala Asp Lys			
105	110	115	120
cat ggg ttt agg caa gag tac tta gat aca ctc tac aga tac gca aaa	438		
His Gly Phe Arg Gln Glu Tyr Leu Asp Thr Leu Tyr Arg Tyr Ala Lys			
125	130	135	
ttc cag tat gag tgt gga aat tac tct gga gct gca gag tat ctt tac	486		
Phe Gln Tyr Glu Cys Gly Asn Tyr Ser Gly Ala Ala Glu Tyr Leu Tyr			
140	145	150	
ttc ttt aga gtt ttg gtc cca gca aca gat aga aat gct tta agt tgc	534		
Phe Phe Arg Val Leu Val Pro Ala Thr Asp Arg Asn Ala Leu Ser Ser			
155	160	165	
ctc tgg gga aaa ctg gcc tct gaa atc tta atg cag aat tgg gat gca	582		
Leu Trp Gly Lys Leu Ala Ser Glu Ile Leu Met Gln Asn Trp Asp Ala			
170	175	180	
gcc atg gaa gac ctt act cga tta aaa gaa acc ata gac aat aat tct	630		
Ala Met Glu Asp Leu Thr Arg Leu Lys Glu Thr Ile Asp Asn Asn Ser			
185	190	195	200
gtg agt tct cca ctc cag tct ctt cag cag cga aca tgg ctc att cat	678		
Val Ser Ser Pro Leu Gln Ser Leu Gln Gln Arg Thr Trp Leu Ile His			
205	210	215	
tgg tct cta ttt gtt ttt ttc aac cat cca aag ggc cgt gat aac att	726		

Trp Ser Leu Phe Val Phe Phe Asn His Pro Lys Gly Arg Asp Asn Ile
 220 225 230
 att gat ctc ttc ctt tac caa cca cag tat ctt aat gca att cag aca 774
 Ile Asp Leu Phe Leu Tyr Gln Pro Gln Tyr Leu Asn Ala Ile Gln Thr
 235 240 245
 atg tgt cca cat att cta cgc tat ttg act act gcc gtc ata acc aac 822
 Met Cys Pro His Ile Leu Arg Tyr Leu Thr Thr Ala Val Ile Thr Asn
 250 255 260
 aaa gat gtg cgg aaa cgc cgg cag gtg ctg aaa gat ctg gtg aaa gtg 870
 Lys Asp Val Arg Lys Arg Arg Gln Val Leu Lys Asp Leu Val Lys Val
 265 270 275 280
 att caa cag gag tct tac aca tat aaa gac cca att aca gaa ttt gtt 918
 Ile Gln Gln Glu Ser Tyr Thr Tyr Lys Asp Pro Ile Thr Glu Phe Val
 285 290 295
 gaa tgc cta tat gtt aac ttt gat ttt gac ggg gct cag aaa aag ctg 966
 Glu Cys Leu Tyr Val Asn Phe Asp Phe Asp Gly Ala Gln Lys Lys Leu
 300 305 310
 aga gaa tgt gaa tca gtg ctc gtg aat gac ttc ttc ctg gta gcg tgt 1014
 Arg Glu Cys Glu Ser Val Leu Val Asn Asp Phe Phe Leu Val Ala Cys
 315 320 325
 ctg gag gac ttc att gag aat gcc cgt ctc ttc ata ttt gag acg ttt 1062
 Leu Glu Asp Phe Ile Glu Asn Ala Arg Leu Phe Ile Phe Glu Thr Phe
 330 335 340
 tgt cgt atc cac cag tgt atc agc att aat atg tta gca gat aaa ctg 1110
 Cys Arg Ile His Gln Cys Ile Ser Ile Asn Met Leu Ala Asp Lys Leu
 345 350 355 360
 aat atg act cca gaa gaa gct gaa aga tgg att gtg aat ttg att aga 1158
 Asn Met Thr Pro Glu Glu Ala Glu Arg Trp Ile Val Asn Leu Ile Arg
 365 370 375

aat gcg agg ttg gat gcc aag att gat tct aaa cta ggt cat gtg gta 1206
 Asn Ala Arg Leu Asp Ala Lys Ile Asp Ser Lys Leu Gly His Val Val
 380 385 390
 atg ggc aac aat gca gtc tgc ccc tac cag caa gig att gaa aag acc 1254
 Met Gly Asn Asn Ala Val Ser Pro Tyr Gln Gln Val Ile Glu Lys Thr
 395 400 405
 aaa agc ctt tct ttt aga agc caa atg ttg gcc atg aat att gaa aag 1302
 Lys Ser Leu Ser Phe Arg Ser Gln Met Leu Ala Met Asn Ile Glu Lys
 410 415 420
 aaa ctt aat cag aac agt aga tca gag gct ccc aac tgg gca acc caa 1350
 Lys Leu Asn Gln Asn Ser Arg Ser Glu Ala Pro Asn Trp Ala Thr Gln
 425 430 435 440
 gac tct ggc ttc tat taa aggattataa agaaaagaag aaaaaggaat 1398
 Asp Ser Gly Phe Tyr
 445
 aagtgaaga cacagtagcc attgtgtata aaggatgaca tacattttta gaagcaatta 1458
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<210> 856

<211> 445

<212> PRT

<213> Mus musculus

<400> 856

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 Asn Glu Lys Glu Leu Leu Gln Gly Lys Leu Asp Leu Leu Ser Asp Thr

35	40	45
Asn Met Val Asp Phe Ala Met Asp Val Tyr Lys Asn Leu Tyr Ser Asp		
50	55	60
Asp Ile Pro His Ala Leu Arg Glu Lys Arg Thr Thr Val Val Ala Gln		
65	70	75
Leu Lys Gln Leu Gln Ala Glu Thr Glu Pro Ile Val Lys Met Phe Glu		80
85	90	95
Asp Pro Glu Thr Thr Arg Gln Met Gln Ser Thr Arg Asp Gly Arg Met		
100	105	110
Leu Phe Asp Tyr Leu Ala Asp Lys His Gly Phe Arg Gln Glu Tyr Leu		
115	120	125
Asp Thr Leu Tyr Arg Tyr Ala Lys Phe Gln Tyr Glu Cys Gly Asn Tyr		
130	135	140
Ser Gly Ala Ala Glu Tyr Leu Tyr Phe Phe Arg Val Leu Val Pro Ala		
145	150	155
Thr Asp Arg Asn Ala Leu Ser Ser Leu Trp Gly Lys Leu Ala Ser Glu		160
165	170	175
Ile Leu Met Gln Asn Trp Asp Ala Ala Met Glu Asp Leu Thr Arg Leu		
180	185	190
Lys Glu Thr Ile Asp Asn Asn Ser Val Ser Ser Pro Leu Gln Ser Leu		
195	200	205
Gln Gln Arg Thr Trp Leu Ile His Trp Ser Leu Phe Val Phe Phe Asn		
210	215	220
His Pro Lys Gly Arg Asp Asn Ile Ile Asp Leu Phe Leu Tyr Gln Pro		
225	230	235
Gln Tyr Leu Asn Ala Ile Gln Thr Met Cys Pro His Ile Leu Arg Tyr		240
245	250	255
Leu Thr Thr Ala Val Ile Thr Asn Lys Asp Val Arg Lys Arg Arg Gln		
260	265	270

Val Leu Lys Asp Leu Val Lys Val Ile Gln Gln Glu Ser Tyr Thr Tyr
275 280 285
Lys Asp Pro Ile Thr Glu Phe Val Glu Cys Leu Tyr Val Asn Phe Asp
290 295 300
Phe Asp Gly Ala Gln Lys Lys Leu Arg Glu Cys Glu Ser Val Leu Val
305 310 315 320
Asn Asp Phe Phe Leu Val Ala Cys Leu Glu Asp Phe Ile Glu Asn Ala
325 330 335
Arg Leu Phe Ile Phe Glu Thr Phe Cys Arg Ile His Gln Cys Ile Ser
340 345 350
Ile Asn Met Leu Ala Asp Lys Leu Asn Met Thr Pro Glu Glu Ala Glu
355 360 365
Arg Trp Ile Val Asn Leu Ile Arg Asn Ala Arg Leu Asp Ala Lys Ile
370 375 380
Asp Ser Lys Leu Gly His Val Val Met Gly Asn Asn Ala Val Ser Pro
385 390 395 400
Tyr Gln Gln Val Ile Glu Lys Thr Lys Ser Leu Ser Phe Arg Ser Gln
405 410 415
Met Leu Ala Met Asn Ile Glu Lys Lys Leu Asn Gln Asn Ser Arg Ser
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Glu Ala Pro Asn Trp Ala Thr Gln Asp Ser Gly Phe Tyr
435 440 445

<210> 857

<211> 2769

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (385).. (2769)

<400> 857

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gtgaccgcgc gcctcggcgc cagccccgcg gatagaagag aagaatcagt ggtttgaaa 180
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accatgattt ctttctcaac tcaacagcat tcccttcctt gaagtcttcg tttttacttc 360
agcctcaggc agttatactt aagc atg aac att gac gac aaa ctg gaa gga 411
                               Met Asn Ile Asp Asp Lys Leu Glu Gly
                               1             5
ttg ttt ctt aaa tgt ggc ggc ata gac gaa atg cag tct tcc agg gca 459
Leu Phe Leu Lys Cys Gly Gly Ile Asp Glu Met Gln Ser Ser Arg Ala
10             15             20             25
atg gtt gta atg ggt gga gtg tct ggc cag tcc gcc gtg tct gga gaa 507
Met Val Val Met Gly Gly Val Ser Gly Gln Ser Ala Val Ser Gly Glu
30             35             40
ctg cag gag tca gta ctt caa gat cga agt ttg cct cac cag gag atc 555
Leu Gln Glu Ser Val Leu Gln Asp Arg Ser Leu Pro His Gln Glu Ile
45             50             55
ctt gct gca gac gaa gtg tta caa gag agt gaa atg aga caa cag gat 603
Leu Ala Ala Asp Glu Val Leu Gln Glu Ser Glu Met Arg Gln Gln Asp
60             65             70
atg ata tcc cat gat gaa ctg atg gtc cac gag gag aca .gtg aaa aat 651
Met Ile Ser His Asp Glu Leu Met Val His Glu Glu Thr Val Lys Asn
75             80             85
gac gaa gag cag atg gac acc cac gag cgg ctt ccc caa gga ctg cag 699

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2083/2644

agt gga gag aag cct tat cag tgt gaa tac tgc tta cag tat ttt tcc 1179
 Ser Gly Glu Lys Pro Tyr Gln Cys Glu Tyr Cys Leu Gln Tyr Phe Ser
 250 255 260 265
 aga aca gat cgt gta ttg aaa cat aaa cgt atg tgc cat gaa aat cac 1227
 Arg Thr Asp Arg Val Leu Lys His Lys Arg Met Cys His Glu Asn His
 270 275 280
 gac aaa aaa cta aac aga tgt gcc atc aaa ggt ggc ctt ctg aca tca 1275
 Asp Lys Lys Leu Asn Arg Cys Ala Ile Lys Gly Gly Leu Leu Thr Ser
 285 290 295
 gag gaa gat tct ggc ttt tct aca tca cca aaa gat aat tca ctg cca 1323
 Glu Glu Asp Ser Gly Phe Ser Thr Ser Pro Lys Asp Asn Ser Leu Pro
 300 305 310
 aaa aag aaa agg caa aaa act gag aag aaa tcg tct ggg atg gac aag 1371
 Lys Lys Lys Arg Gln Lys Thr Glu Lys Lys Ser Ser Gly Met Asp Lys
 315 320 325
 gag agt gtg ctg gac aaa tct gac ctg aag aaa gac aag aac gat tac 1419
 Glu Ser Val Leu Asp Lys Ser Asp Leu Lys Lys Asp Lys Asn Asp Tyr
 330 335 340 345
 ctg cct ctc tac tcg tcg agc act aaa gta aag gat gag tac atg gtg 1467
 Leu Pro Leu Tyr Ser Ser Ser Thr Lys Val Lys Asp Glu Tyr Met Val
 350 355 360
 gca gag tat gct gtt gag atg cca cac tca tca gtg gga ggc tct cac 1515
 Ala Glu Tyr Ala Val Glu Met Pro His Ser Ser Val Gly Gly Ser His
 365 370 375
 cta gaa gat gca tct gga gaa ata cac cca ccc aag ttg gtt ctc aaa 1563
 Leu Glu Asp Ala Ser Gly Glu Ile His Pro Pro Lys Leu Val Leu Lys
 380 385 390
 aaa atc aat agt aag aga agt ctg aag cag ccc ttg gag caa agt caa 1611
 Lys Ile Asn Ser Lys Arg Ser Leu Lys Gln Pro Leu Glu Gln Ser Gln

395	400	405	
acc att tca ccc cta tcc agc tat gaa gac agc aaa gtt tcc aag tac			1659
Thr Ile Ser Pro Leu Ser Ser Tyr Glu Asp Ser Lys Val Ser Lys Tyr			
410	415	420	425
gct ttt gag ctt gtg gat aag cag gcg tta ctg gac tca gaa ggc agt			1707
Ala Phe Glu Leu Val Asp Lys Gln Ala Leu Leu Asp Ser Glu Gly Ser			
	430	435	440
gct gac atc gat caa gtg gat aac ttg cag gag ggc ccc agc aaa cct			1755
Ala Asp Ile Asp Gln Val Asp Asn Leu Gln Glu Gly Pro Ser Lys Pro			
	445	450	455
gtg cac agc agt act aat tac gac gat gcc atg cag ttt ctg aag aag			1803
Val His Ser Ser Thr Asn Tyr Asp Asp Ala Met Gln Phe Leu Lys Lys			
	460	465	470
aag cgg tat ctt caa gct gca agt aac aac agc agg gag tac gca ctg			1851
Lys Arg Tyr Leu Gln Ala Ala Ser Asn Asn Ser Arg Glu Tyr Ala Leu			
	475	480	485
aat gtg ggc acc ata gcc tct cag cct tct gtg aca caa gcc gcc gtg			1899
Asn Val Gly Thr Ile Ala Ser Gln Pro Ser Val Thr Gln Ala Ala Val			
490	495	500	505
gcc agc gtc att gat gaa agc acc aca gca tcc ata ctg gat tcc cag			1947
Ala Ser Val Ile Asp Glu Ser Thr Thr Ala Ser Ile Leu Asp Ser Gln			
	510	515	520
gca ctg aat gtg gag att aag agc aat cat gac aaa aat gtt atc cca			1995
Ala Leu Asn Val Glu Ile Lys Ser Asn His Asp Lys Asn Val Ile Pro			
	525	530	535
gat gag gtc ctg cag act ctg ctg gat cat tat tcc cac aaa cct aat			2043
Asp Glu Val Leu Gln Thr Leu Leu Asp His Tyr Ser His Lys Pro Asn			
	540	545	550
gga cag cat gag att tcc ttc agc gtt gca gat act gaa gtg act tct			2091

Gly Gln His Glu Ile Ser Phe Ser Val Ala Asp Thr Glu Val Thr Ser	
555	560
565	
agc ata tca atc aat tct tcc gat gta cct gaa gtc acc cag tca gag	2139
Ser Ile Ser Ile Asn Ser Ser Asp Val Pro Glu Val Thr Gln Ser Glu	
570	575
580	585
aat gtt gga tca agc tcc caa gca tcc tca tca gat aaa gct aac atg	2187
Asn Val Gly Ser Ser Ser Gln Ala Ser Ser Ser Asp Lys Ala Asn Met	
590	595
600	
ttg cag gaa tac tcc aag ttt ctg cag cag gct ttg gac aga act agc	2235
Leu Gln Glu Tyr Ser Lys Phe Leu Gln Gln Ala Leu Asp Arg Thr Ser	
605	610
615	
caa aac gat gcc tat ttg aat agc ccg agc ctt aac ttt gtg act gac	2283
Gln Asn Asp Ala Tyr Leu Asn Ser Pro Ser Leu Asn Phe Val Thr Asp	
620	625
630	
aac cag acc ctt cca aat ccg cca gca ttc tct tcc ata gac aag caa	2331
Asn Gln Thr Leu Pro Asn Pro Pro Ala Phe Ser Ser Ile Asp Lys Gln	
635	640
645	
gtc tat gca gcc atg ccc atc aat agc ttt cga tca gga atg aat tct	2379
Val Tyr Ala Ala Met Pro Ile Asn Ser Phe Arg Ser Gly Met Asn Ser	
650	655
660	665
cca cta aga aca act cca gat aag tcc cac ttt gga cta ata gtc ggt	2427
Pro Leu Arg Thr Thr Pro Asp Lys Ser His Phe Gly Leu Ile Val Gly	
670	675
680	
gac tca cag cac ccg ttt ccc ttt tca ggt gac gag aca aac cac gcc	2475
Asp Ser Gln His Pro Phe Pro Phe Ser Gly Asp Glu Thr Asn His Ala	
685	690
695	
tct gcc acg tca aca gca gac ttt ttg gat caa gtc act tct cag aag	2523
Ser Ala Thr Ser Thr Ala Asp Phe Leu Asp Gln Val Thr Ser Gln Lys	
700	705
710	


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aaa gct gag gca cag cct gtc cac cag gct tac caa atg agc tcc ttt 2571
Lys Ala Glu Ala Gln Pro Val His Gln Ala Tyr Gln Met Ser Ser Phe
      715              720              725
gag cag ccc ttc cgt gct cca tat cat gga tcc aga gct gga ata gca 2619
Glu Gln Pro Phe Arg Ala Pro Tyr His Gly Ser Arg Ala Gly Ile Ala
730              735              740              745
act cag ttt agc act gcc aat gga cag gtg aac ctt cgg gga cca ggg 2667
Thr Gln Phe Ser Thr Ala Asn Gly Gln Val Asn Leu Arg Gly Pro Gly
      750              755              760
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Thr Ser Ala Glu Phe Ser Glu Phe Pro Leu Val Asn Val Asn Asp Asn
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Ile Gln Lys Tyr Leu Leu Gln Arg His Glu Lys Ile His Thr Gly Glu		
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Gln Lys Gly Leu Asn Pro Gly Thr Leu Asn Ile Leu Val Arg Val Asn
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Tyr Ile Ala Ile Asp Asp Ile Gln Val Leu Ser Tyr Pro Cys Asp Lys
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Ser Pro His Phe Leu Arg Leu Gly Asp Val Glu Val Asn Ala Gly Gln
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Asn Ala Thr Phe Gln Cys Ile Ala Thr Gly Arg Asp Ala Val His Asn
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Lys Leu Trp Leu Gln Arg Arg Asn Gly Glu Asp Ile Pro Val Ala Gln
230 235 240
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Thr Lys Asn Ile Asn His Arg Arg Phe Ala Ala Ser Phe Arg Leu Gln

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Glu Arg Gly Ser Gly Val Ser Asn Phe Ala Gln Leu Ile Val Arg Glu			
275	280	285	
cca cct aga ccc att gct cct ccc cag ctg ctt ggt gtt ggg cct act			2049
Pro Pro Arg Pro Ile Ala Pro Pro Gln Leu Leu Gly Val Gly Pro Thr			
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tac ttg ctg atc caa cta aat gcc aac tct att att ggc gat ggc ccc			2097
Tyr Leu Leu Ile Gln Leu Asn Ala Asn Ser Ile Ile Gly Asp Gly Pro			
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atc atc ctg aaa gaa gta gag tat cga atg aca tca gga tct tgg aca			2145
Ile Ile Leu Lys Glu Val Glu Tyr Arg Met Thr Ser Gly Ser Trp Thr			
325	330	335	
gaa acc cat gca gtc aac gca cca aca tat aag ttg tgg cat tta gac			2193
Glu Thr His Ala Val Asn Ala Pro Thr Tyr Lys Leu Trp His Leu Asp			
340	345	350	
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Pro Asp Thr Glu Tyr Glu Ile Arg Val Leu Leu Thr Arg Pro Gly Glu			
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Gly Gly Thr Gly Leu Pro Gly Pro Pro Leu Ile Thr Arg Thr Lys Cys			
370	375	380	385
gca gaa cct atg cgg aca cca aag act tta aag att gct gaa atc cag			2337
Ala Glu Pro Met Arg Thr Pro Lys Thr Leu Lys Ile Ala Glu Ile Gln			
390	395	400	
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Arg Cys His Thr Phe Asn Val Thr Ile Cys Tyr His Tyr Phe Arg Gly	
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His Asn Glu Ser Arg Ala Asp Cys Leu Asp Met Asp Pro Lys Ala Pro	
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Gln His Val Val Asn His Leu Pro Pro Tyr Thr Asn Val Ser Leu Lys	
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atg atc cta acc aac cca gag gga agg aag gag agc gaa gag aca atc	2577
Met Ile Leu Thr Asn Pro Glu Gly Arg Lys Glu Ser Glu Glu Thr Ile	
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atc caa act gat gaa gat gtg ccc ggg cct gtg cca gtc aaa tcc ctc	2625
Ile Gln Thr Asp Glu Asp Val Pro Gly Pro Val Pro Val Lys Ser Leu	
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Gln Gly Thr Ser Phe Glu Asn Lys Ile Phe Leu Asn Trp Lys Glu Pro	
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ctg gaa ccg aat gga att atc act cag tat gag gtg agc tat agc agc	2721
Leu Glu Pro Asn Gly Ile Ile Thr Gln Tyr Glu Val Ser Tyr Ser Ser	
515	520
525	
ata aga tca ttt gac cct gct gtt cca gtg gct ggg ccc cca cag act	2769
Ile Arg Ser Phe Asp Pro Ala Val Pro Val Ala Gly Pro Pro Gln Thr	
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Val Ser Asn Leu Trp Asn Ser Thr His His Val Phe Met His Leu His	
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560	

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Pro Gly Thr Thr Tyr Gln Phe Phe Ile Arg Ala Ser Thr Val Lys Gly	
565 570 575	
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Phe Gly Pro Ala Thr Ala Ile Asn Val Thr Thr Asn Ile Ser Ala Pro	
580 585 590	
agc tta cct gac tat gaa gga gtt gat gcc tct ctg aat gaa act gcc	2961
Ser Leu Pro Asp Tyr Glu Gly Val Asp Ala Ser Leu Asn Glu Thr Ala	
595 600 605	
acc acc atc aca gta cta ttg agg cct gca caa gcc aaa ggt gct cct	3009
Thr Thr Ile Thr Val Leu Leu Arg Pro Ala Gln Ala Lys Gly Ala Pro	
610 615 620 625	
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Ile Ser Ala Tyr Gln Ile Val Val Glu Gln Leu His Pro His Arg Thr	
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Lys Arg Glu Ala Gly Ala Met Glu Cys Tyr Gln Val Pro Val Thr Tyr	
645 650 655	
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Gln Asn Ala Leu Ser Gly Gly Ala Pro Tyr Tyr Phe Ala Ala Glu Leu	
660 665 670	
ccc cct ggg aat ctt ccc gag cct gct ccc ttc acc gtg ggt gac aac	3201
Pro Pro Gly Asn Leu Pro Glu Pro Ala Pro Phe Thr Val Gly Asp Asn	
675 680 685	
cgg acc tat aaa ggc ttt tgg aac cct ccc ctg gcc ccc cgc aaa gga	3249
Arg Thr Tyr Lys Gly Phe Trp Asn Pro Pro Leu Ala Pro Arg Lys Gly	
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tac aac atc tat ttc caa gcg atg agc agt gtg gag aag gaa act aaa	3297
Tyr Asn Ile Tyr Phe Gln Ala Met Ser Ser Val Glu Lys Glu Thr Lys	

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Thr Gln Cys Val Arg Ile Ala Thr Lys Ala Ala Ala Thr Glu Glu Pro			
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gaa gtg atc cca gac ccg gca aag cag aca gac aga gtg gtg aaa atc			3393
Glu Val Ile Pro Asp Pro Ala Lys Gln Thr Asp Arg Val Val Lys Ile			
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Ala Gly Ile Ser Ala Gly Ile Leu Val Phe Ile Leu Leu Leu Leu Val			
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gtc ata gta att gtg aaa aag agc aag ctt gct aag aag cgc aaa gat			3489
Val Ile Val Ile Val Lys Lys Ser Lys Leu Ala Lys Lys Arg Lys Asp			
770	775	780	785
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Ala Met Gly Asn Thr Arg Gln Glu Met Thr His Met Val Asn Ala Met			
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Asp Arg Ser Tyr Ala Asp Gln Ser Thr Leu His Ala Glu Asp Pro Leu			
805	810	815	
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Ser Leu Thr Phe Met Asp Gln His Asn Phe Ser Pro Arg Leu Pro Asn			
820	825	830	
gat cca ctt gtg ccg act gcc gtg tta gat gag aac cac agt gcc aca			3681
Asp Pro Leu Val Pro Thr Ala Val Leu Asp Glu Asn His Ser Ala Thr			
835	840	845	
gca gag tct agt cgt ctc ctg gat gtt cct cga tac ctc tgc gaa ggg			3729
Ala Glu Ser Ser Arg Leu Leu Asp Val Pro Arg Tyr Leu Cys Glu Gly			
850	855	860	865
aca gag tcc cct tat cag aca gga cag ctg cac cca gcc atc agg gtg			3777

Thr Glu Ser Pro Tyr Gln Thr Gly Gln Leu His Pro Ala Ile Arg Val	
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gcc gac tta ctg cag cac att aac ctc atg aag aca tca gac agc tat	3825
Ala Asp Leu Leu Gln His Ile Asn Leu Met Lys Thr Ser Asp Ser Tyr	
885	890
895	
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Gly Phe Lys Glu Glu Tyr Glu Ser Phe Phe Glu Gly Gln Ser Ala Ser	
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tgg gat gtg gct aaa aag gat caa aac aga gca aag aac cga tac gga	3921
Trp Asp Val Ala Lys Lys Asp Gln Asn Arg Ala Lys Asn Arg Tyr Gly	
915	920
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aac att atc gca tat gat cac tcc aga gtc atc ctg caa cct gtg gaa	3969
Asn Ile Ile Ala Tyr Asp His Ser Arg Val Ile Leu Gln Pro Val Glu	
930	935
940	945
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Asp Asp Pro Ser Ser Asp Tyr Ile Asn Ala Asn Tyr Ile Asp Ile Trp	
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Gly Pro Val His Glu Thr Val Tyr Asp Phe Trp Arg Met Val Trp Gln	
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Glu Gln Ser Ala Cys Ile Val Met Val Thr Asn Leu Val Glu Val Gly	
995	1000
1005	
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Arg Val Lys Cys Tyr Lys Tyr Trp Pro Asp Asp Thr Glu Val Tyr Gly	
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Val Lys Gln Phe His Phe Thr Gly Trp Pro Asp His Gly Val Pro Tyr	
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Pro Pro Ser Ala Gly Pro Ile Val Val His Cys Ser Ala Gly Ala Gly	
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Asp Ala Ile Leu Glu Ala Cys Leu Cys Gly Glu Thr Ala Ile Pro Val	
1155 1160 1165	
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Cys Glu Phe Lys Ala Ala Tyr Phe Asp Met Ile Arg Ile Asp Ser Gln	

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Thr Asn Ser Ser His Leu Lys Asp Glu Phe Gln Thr Leu Asn Ser Val				
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Thr Pro Arg Leu Gln Ala Glu Asp Cys Ser Ile Ala Cys Leu Pro Arg				
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aac cat gac aag aac cgt ttc atg gat atg ctc cca cct gac aga tgt				4833
Asn His Asp Lys Asn Arg Phe Met Asp Met Leu Pro Pro Asp Arg Cys				
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gct gct ctt atg gat agc tat agg cag cca gca gct ttc atc gtc aca				4929
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Gln Tyr Pro Leu Pro Asn Thr Val Lys Asp Phe Trp Arg Leu Val Tyr				
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gat tac gga tgt acc tcc atc gtg atg cta aat gaa gtg gac ctg tct				5025
Asp Tyr Gly Cys Thr Ser Ile Val Met Leu Asn Glu Val Asp Leu Ser				
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 1380 1385 1390
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 1410 1415 1420 1425
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 Gln Tyr Arg Phe Cys Tyr Asp Val Ala Leu Glu Tyr Leu Glu Ser Ser
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5896

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<400> 862

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 Asp Leu Tyr Asp Asp Phe Glu Trp Val His Val Ser Ala Gln Glu Pro
 50 55 60
 His Tyr Leu Pro Pro Glu Met Pro Gln Gly Ser Tyr Met Val Val Asp
 65 70 75 80
 Ser Ser Asn His Asp Pro Gly Glu Lys Ala Arg Leu Gln Leu Pro Thr
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 Met Lys Glu Asn Asp Thr His Cys Ile Asp Phe Ser Tyr Leu Leu Tyr
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 Ser Gln Lys Gly Leu Asn Pro Gly Thr Leu Asn Ile Leu Val Arg Val
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 Asn Lys Gly Pro Leu Ala Asn Pro Ile Trp Asn Val Thr Gly Phe Thr
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	180		185		190
Lys Ser Pro His Phe Leu Arg Leu Gly Asp Val Glu Val Asn Ala Gly					
	195		200		205
Gln Asn Ala Thr Phe Gln Cys Ile Ala Thr Gly Arg Asp Ala Val His					
	210		215		220
Asn Lys Leu Trp Leu Gln Arg Arg Asn Gly Glu Asp Ile Pro Val Ala					
225		230		235	240
Gln Thr Lys Asn Ile Asn His Arg Arg Phe Ala Ala Ser Phe Arg Leu					
	245		250		255
Gln Glu Val Thr Lys Thr Asp Gln Asp Leu Tyr Arg Cys Val Thr Gln					
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Ser Glu Arg Gly Ser Gly Val Ser Asn Phe Ala Gln Leu Ile Val Arg					
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Glu Pro Pro Arg Pro Ile Ala Pro Pro Gln Leu Leu Gly Val Gly Pro					
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Thr Tyr Leu Leu Ile Gln Leu Asn Ala Asn Ser Ile Ile Gly Asp Gly					
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Pro Ile Ile Leu Lys Glu Val Glu Tyr Arg Met Thr Ser Gly Ser Trp					
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Thr Glu Thr His Ala Val Asn Ala Pro Thr Tyr Lys Leu Trp His Leu					
	340		345		350
Asp Pro Asp Thr Glu Tyr Glu Ile Arg Val Leu Leu Thr Arg Pro Gly					
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Glu Gly Gly Thr Gly Leu Pro Gly Pro Pro Leu Ile Thr Arg Thr Lys					
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Cys Ala Glu Pro Met Arg Thr Pro Lys Thr Leu Lys Ile Ala Glu Ile					
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Gln Ala Arg Arg Ile Ala Val Asp Trp Glu Ser Leu Gly Tyr Asn Ile
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 Thr Arg Cys His Thr Phe Asn Val Thr Ile Cys Tyr His Tyr Phe Arg
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 Gly His Asn Glu Ser Arg Ala Asp Cys Leu Asp Met Asp Pro Lys Ala
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 Pro Gln His Val Val Asn His Leu Pro Pro Tyr Thr Asn Val Ser Leu
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 Lys Met Ile Leu Thr Asn Pro Glu Gly Arg Lys Glu Ser Glu Glu Thr
 465 470 475 480
 Ile Ile Gln Thr Asp Glu Asp Val Pro Gly Pro Val Pro Val Lys Ser
 485 490 495
 Leu Gln Gly Thr Ser Phe Glu Asn Lys Ile Phe Leu Asn Trp Lys Glu
 500 505 510
 Pro Leu Glu Pro Asn Gly Ile Ile Thr Gln Tyr Glu Val Ser Tyr Ser
 515 520 525
 Ser Ile Arg Ser Phe Asp Pro Ala Val Pro Val Ala Gly Pro Pro Gln
 530 535 540
 Thr Val Ser Asn Leu Trp Asn Ser Thr His His Val Phe Met His Leu
 545 550 555 560
 His Pro Gly Thr Thr Tyr Gln Phe Phe Ile Arg Ala Ser Thr Val Lys
 565 570 575
 Gly Phe Gly Pro Ala Thr Ala Ile Asn Val Thr Thr Asn Ile Ser Ala
 580 585 590
 Pro Ser Leu Pro Asp Tyr Glu Gly Val Asp Ala Ser Leu Asn Glu Thr
 595 600 605
 Ala Thr Thr Ile Thr Val Leu Leu Arg Pro Ala Gln Ala Lys Gly Ala
 610 615 620
 Pro Ile Ser Ala Tyr Gln Ile Val Val Glu Gln Leu His Pro His Arg

625	630	635	640
Thr Lys Arg Glu Ala Gly Ala Met Glu Cys Tyr Gln Val Pro Val Thr			
	645	650	655
Tyr Gln Asn Ala Leu Ser Gly Gly Ala Pro Tyr Tyr Phe Ala Ala Glu			
	660	665	670
Leu Pro Pro Gly Asn Leu Pro Glu Pro Ala Pro Phe Thr Val Gly Asp			
	675	680	685
Asn Arg Thr Tyr Lys Gly Phe Trp Asn Pro Pro Leu Ala Pro Arg Lys			
	690	695	700
Gly Tyr Asn Ile Tyr Phe Gln Ala Met Ser Ser Val Glu Lys Glu Thr			
705	710	715	720
Lys Thr Gln Cys Val Arg Ile Ala Thr Lys Ala Ala Ala Thr Glu Glu			
	725	730	735
Pro Glu Val Ile Pro Asp Pro Ala Lys Gln Thr Asp Arg Val Val Lys			
	740	745	750
Ile Ala Gly Ile Ser Ala Gly Ile Leu Val Phe Ile Leu Leu Leu Leu			
	755	760	765
Val Val Ile Val Ile Val Lys Lys Ser Lys Leu Ala Lys Lys Arg Lys			
	770	775	780
Asp Ala Met Gly Asn Thr Arg Gln Glu Met Thr His Met Val Asn Ala			
785	790	795	800
Met Asp Arg Ser Tyr Ala Asp Gln Ser Thr Leu His Ala Glu Asp Pro			
	805	810	815
Leu Ser Leu Thr Phe Met Asp Gln His Asn Phe Ser Pro Arg Leu Pro			
	820	825	830
Asn Asp Pro Leu Val Pro Thr Ala Val Leu Asp Glu Asn His Ser Ala			
	835	840	845
Thr Ala Glu Ser Ser Arg Leu Leu Asp Val Pro Arg Tyr Leu Cys Glu			
850	855	860	

Gly Thr Glu Ser Pro Tyr Gln Thr Gly Gln Leu His Pro Ala Ile Arg
 865 870 875 880
 Val Ala Asp Leu Leu Gln His Ile Asn Leu Met Lys Thr Ser Asp Ser
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 Tyr Gly Phe Lys Glu Glu Tyr Glu Ser Phe Phe Glu Gly Gln Ser Ala
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 Ser Trp Asp Val Ala Lys Lys Asp Gln Asn Arg Ala Lys Asn Arg Tyr
 915 920 925
 Gly Asn Ile Ile Ala Tyr Asp His Ser Arg Val Ile Leu Gln Pro Val
 930 935 940
 Glu Asp Asp Pro Ser Ser Asp Tyr Ile Asn Ala Asn Tyr Ile Asp Ile
 945 950 955 960
 Trp Leu Tyr Arg Asp Gly Tyr Gln Arg Pro Ser His Tyr Ile Ala Thr
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 Gln Gly Pro Val His Glu Thr Val Tyr Asp Phe Trp Arg Met Val Trp
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 Val Val Arg Thr Phe Thr Leu Glu Arg Arg Gly Tyr Asn Glu Ile Arg
 1045 1050 1055
 Glu Val Lys Gln Phe His Phe Thr Gly Trp Pro Asp His Gly Val Pro
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 Tyr His Ala Thr Gly Leu Leu Ser Phe Ile Arg Arg Val Lys Leu Ser
 1075 1080 1085
 Asn Pro Pro Ser Ala Gly Pro Ile Val Val His Cys Ser Ala Gly Ala

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Gly Arg Thr Gly Cys Tyr Ile Val	Ile Asp Ile Met Leu Asp Met Ala	
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Glu Arg Glu Gly Val Val Asp Ile Tyr Asn Cys Val Lys Ala Leu Arg		
1125	1130	1135
Ser Arg Arg Ile Asn Met Val Gln Thr Glu Glu Gln Tyr Ile Phe Ile		
1140	1145	1150
His Asp Ala Ile Leu Glu Ala Cys Leu Cys Gly Glu Thr Ala Ile Pro		
1155	1160	1165
Val Cys Glu Phe Lys Ala Ala Tyr Phe Asp Met Ile Arg Ile Asp Ser		
1170	1175	1180
Gln Thr Asn Ser Ser His Leu Lys Asp Glu Phe Gln Thr Leu Asn Ser		
185	1190	1195 1200
Val Thr Pro Arg Leu Gln Ala Glu Asp Cys Ser Ile Ala Cys Leu Pro		
1205	1210	1215
Arg Asn His Asp Lys Asn Arg Phe Met Asp Met Leu Pro Pro Asp Arg		
1220	1225	1230
Cys Leu Pro Phe Leu Ile Thr Ile Asp Gly Glu Ser Ser Asn Tyr Ile		
1235	1240	1245
Asn Ala Ala Leu Met Asp Ser Tyr Arg Gln Pro Ala Ala Phe Ile Val		
1250	1255	1260
Thr Gln Tyr Pro Leu Pro Asn Thr Val Lys Asp Phe Trp Arg Leu Val		
265	1270	1275 1280
Tyr Asp Tyr Gly Cys Thr Ser Ile Val Met Leu Asn Glu Val Asp Leu		
1285	1290	1295
Ser Gln Gly Cys Pro Gln Tyr Trp Pro Glu Glu Gly Met Leu Arg Tyr		
1300	1305	1310
Gly Pro Ile Gln Val Glu Cys Met Ser Cys Ser Met Asp Cys Asp Val		
1315	1320	1325

Ile Asn Arg Ile Phe Arg Ile Cys Asn Leu Thr Arg Pro Gln Glu Gly
 1330 1335 1340
 Tyr Leu Met Val Gln Gln Phe Gln Tyr Leu Gly Trp Ala Ser His Arg
 345 1350 1355 1360
 Glu Val Pro Gly Ser Lys Arg Ser Phe Leu Lys Leu Ile Leu Gln Val
 1365 1370 1375
 Glu Lys Trp Gln Glu Glu Cys Glu Glu Gly Glu Gly Arg Thr Ile Ile
 1380 1385 1390
 His Cys Leu Asn Gly Gly Gly Arg Ser Gly Met Phe Cys Ala Ile Gly
 1395 1400 1405
 Ile Val Val Glu Met Val Lys Arg Gln Asn Val Val Asp Val Phe His
 1410 1415 1420
 Ala Val Lys Thr Leu Arg Asn Ser Lys Pro Asn Met Val Glu Ala Pro
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 Glu Gln Tyr Arg Phe Cys Tyr Asp Val Ala Leu Glu Tyr Leu Glu Ser
 1445 1450 1455
 Ser

<210> 863

<211> 521

<212> DNA

<213> Mus musculus

<400> 863

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 atgctgctat tataatgaag attgacaagg atgaacgcct ggtggctgctg gatgaggagc 180
 tcgagggtgt ctctccagat gaacttaaag acgaactacc cgagcggcac gctnctgttc 240
 atttgtata gttataaata ccaacatgat gatggcagag tctcgtaccc gctctgcttt 300

attttctcca gtccgtcgg gigtgaagcct gagcagcaga tgaatgtacgc tgggagtaag 360
 aaccagctaa tccagactgc cgaacttaac aaggtaattg aaattagaaa cactggagat 420
 ccaacttaag aattgttacg ttagaaactt ggaattttcc ctaaigtgaa ctctggtttc 480
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<210> 864

<211> 3892

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (292).. (3207)

<400> 864

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 gcccgcgccg gcccgcaccc ggctcggctc ccgccggctc gcgccgctcc gcagcggagc 180
 ccgcaggcga ggagaggccg cgcgcatttc cagggtaccc tcagaggcca gaagagggtg 240
 tcagagccct tgtaactgga gtttgacggt cgtgagctgc gcattttcac c atg gca 297

Met Ala

1

gac gat gat ccc tac gga act ggg caa atg ttt cat ttg aac act gct 345
 Asp Asp Asp Pro Tyr Gly Thr Gly Gln Met Phe His Leu Asn Thr Ala

5

10

15

ttg act cac tca ata ttt aat gca gaa tta tat tca cca gaa ata cca 393
 Leu Thr His Ser Ile Phe Asn Ala Glu Leu Tyr Ser Pro Glu Ile Pro

20

25

30

ctg tca aca gat ggc cca tac ctt caa ata tta gag caa cca aaa cag 441

2117/2644

2118/2644

340	345	350	
gag gaa gtg caa agg aaa cgc cag aag ctt atg ccg aac ttc tcg gac			1401
Glu Glu Val Gln Arg Lys Arg Gln Lys Leu Met Pro Asn Phe Ser Asp			
355	360	365	370
agc ttc ggc ggc ggc agt gga gcg gga gcc ggt ggt gga ggc atg ttc			1449
Ser Phe Gly Gly Gly Ser Gly Ala Gly Ala Gly Gly Gly Gly Met Phe			
	375	380	385
ggt agt ggc ggt ggc gga ggg agt acc gga agc cct ggc cca ggg tat			1497
Gly Ser Gly Gly Gly Gly Gly Ser Thr Gly Ser Pro Gly Pro Gly Tyr			
	390	395	400
ggc tac tcg aac tac gga ttt cct ccc tac ggt ggg att aca ttc cat			1545
Gly Tyr Ser Asn Tyr Gly Phe Pro Pro Tyr Gly Gly Ile Thr Phe His			
	405	410	415
ccc gga gtc acg aaa tcc aac gca ggg gtc acc cat ggc acc ata aac			1593
Pro Gly Val Thr Lys Ser Asn Ala Gly Val Thr His Gly Thr Ile Asn			
	420	425	430
acc aaa ttt aaa aat ggc cct aaa gat tgt gcc aag agt gat gac gag			1641
Thr Lys Phe Lys Asn Gly Pro Lys Asp Cys Ala Lys Ser Asp Asp Glu			
435	440	445	450
gag agt ctg act ctc cct gag aag gaa act gaa ggt gaa ggg ccc agc			1689
Glu Ser Leu Thr Leu Pro Glu Lys Glu Thr Glu Gly Glu Gly Pro Ser			
	455	460	465
ctg ccc atg gcc tgc acc aag acg gaa ccc atc gcc ttg gca tcc acc			1737
Leu Pro Met Ala Cys Thr Lys Thr Glu Pro Ile Ala Leu Ala Ser Thr			
	470	475	480
atg gaa gac aag gag cag gac atg gga ttt cag gat aac ctc ttt ctc			1785
Met Glu Asp Lys Glu Gln Asp Met Gly Phe Gln Asp Asn Leu Phe Leu			
	485	490	495
gag aag gct ctg cag ctc gcc agg cga cac gcc aac gcc ctt ttc gac			1833

Glu Lys Ala Leu Gln Leu Ala Arg Arg His Ala Asn Ala Leu Phe Asp
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 Tyr Ala Val Thr Gly Asp Val Lys Met Leu Leu Ala Val Gln Arg His
 515 520 525 530
 ctc acc gcc gtg cag gat gag aat ggg gac agt gtc tta cac tta gcc 1929
 Leu Thr Ala Val Gln Asp Glu Asn Gly Asp Ser Val Leu His Leu Ala
 535 540 545
 atc atc cac ctc cac gct cag ctc gtg agg gat ctg ctg gaa gtc aca 1977
 Ile Ile His Leu His Ala Gln Leu Val Arg Asp Leu Leu Glu Val Thr
 550 555 560
 tct ggt ttg atc tct gat gac atc atc aac atg aga aat gac ctg tat 2025
 Ser Gly Leu Ile Ser Asp Asp Ile Ile Asn Met Arg Asn Asp Leu Tyr
 565 570 575
 cag aca cct ctg cac ttg gcc gtg atc acc aag cag gaa gat gta gta 2073
 Gln Thr Pro Leu His Leu Ala Val Ile Thr Lys Gln Glu Asp Val Val
 580 585 590
 gag gat ttg ctg agg gtt ggg gct gac ctg agc ctt ctg gac cgc tgg 2121
 Glu Asp Leu Leu Arg Val Gly Ala Asp Leu Ser Leu Leu Asp Arg Trp
 595 600 605 610
 ggc aac tct gtc ctg cac cta gct gcc aaa gaa gga cac gac aga atc 2169
 Gly Asn Ser Val Leu His Leu Ala Ala Lys Glu Gly His Asp Arg Ile
 615 620 625
 ctc agc atc ctg ctc aag agc aga aaa gca gcg ccc ctt atc gac cac 2217
 Leu Ser Ile Leu Leu Lys Ser Arg Lys Ala Ala Pro Leu Ile Asp His
 630 635 640
 ccc aat ggg gaa ggt cta aat gcc atc cac ata gct gtg atg agc aat 2265
 Pro Asn Gly Glu Gly Leu Asn Ala Ile His Ile Ala Val Met Ser Asn
 645 650 655

agc ctg cca tgt ctg ctg ctg ctg gtg gct gcc ggg gca gaa gtc aat 2313
 Ser Leu Pro Cys Leu Leu Leu Leu Val Ala Ala Gly Ala Glu Val Asn
 660 665 670
 gct cag gag cag aag tct ggg cgc acg ccg ctg cac ctg gcc gtg gag 2361
 Ala Gln Glu Gln Lys Ser Gly Arg Thr Pro Leu His Leu Ala Val Glu
 675 680 685 690
 tac gac aac atc tcc ttg gct ggc tgc ctg ctt ctg gag ggt gat gcc 2409
 Tyr Asp Asn Ile Ser Leu Ala Gly Cys Leu Leu Leu Glu Gly Asp Ala
 695 700 705
 cac gtg gac agt acc acc tat gat ggg act aca cct ctg cat ata gcg 2457
 His Val Asp Ser Thr Thr Tyr Asp Gly Thr Thr Pro Leu His Ile Ala
 710 715 720
 gcc gga aga ggg tcc acc aga ctg gca gct ctt ctc aaa gca gca gga 2505
 Ala Gly Arg Gly Ser Thr Arg Leu Ala Ala Leu Leu Lys Ala Ala Gly
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 gca gac ccc ctg gtg gag aac ttt gag cct ctc tat gac ctg gac gac 2553
 Ala Asp Pro Leu Val Glu Asn Phe Glu Pro Leu Tyr Asp Leu Asp Asp
 740 745 750
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 Ser Trp Glu Lys Ala Gly Glu Asp Glu Gly Val Val Pro Gly Thr Thr
 755 760 765 770
 ccc ctg gac atg gct gcc aac tgg cag gta ttt gac ata cta aat ggg 2649
 Pro Leu Asp Met Ala Ala Asn Trp Gln Val Phe Asp Ile Leu Asn Gly
 775 780 785
 aaa ccg tat gag cct gtg ttc aca tct gat gat ata cta cca caa ggg 2697
 Lys Pro Tyr Glu Pro Val Phe Thr Ser Asp Asp Ile Leu Pro Gln Gly
 790 795 800
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 Asp Met Lys Gln Leu Thr Glu Asp Thr Arg Leu Gln Leu Cys Lys Leu

805	810	815	
ctg gaa att cct gat cca gac aaa aac tgg gcc act ctg gca cag aag			2793
Leu Glu Ile Pro Asp Pro Asp Lys Asn Trp Ala Thr Leu Ala Gln Lys			
820	825	830	
ttg ggt ctg ggg ata ttg aac aat gcc ttc cgg ctg agt cct gct cct			2841
Leu Gly Leu Gly Ile Leu Asn Asn Ala Phe Arg Leu Ser Pro Ala Pro			
835	840	845	850
tct aaa act ctc atg gac aac tat gag gtc tct ggg ggt acc atc aaa			2889
Ser Lys Thr Leu Met Asp Asn Tyr Glu Val Ser Gly Gly Thr Ile Lys			
855	860	865	
gag ctg atg gag gcc ctg caa cag atg ggc tac aca gag gcc att gaa			2937
Glu Leu Met Glu Ala Leu Gln Gln Met Gly Tyr Thr Glu Ala Ile Glu			
870	875	880	
gtg atc cag gca gcc ttc cgc acc ccg gca acc aca gcc tcc agc ccc			2985
Val Ile Gln Ala Ala Phe Arg Thr Pro Ala Thr Thr Ala Ser Ser Pro			
885	890	895	
gtg acc act gct cag gtc cac tgt ctg cct ctc tcg tct tcc tcc acg			3033
Val Thr Thr Ala Gln Val His Cys Leu Pro Leu Ser Ser Ser Ser Thr			
900	905	910	
agg cag cac ata gat gaa ctc cgg gat agt gac agc gtc tgt gac agt			3081
Arg Gln His Ile Asp Glu Leu Arg Asp Ser Asp Ser Val Cys Asp Ser			
915	920	925	930
ggg gtg gag aca tcc ttc cgc aaa ctc agc ttt aca gag tct ctt act			3129
Gly Val Glu Thr Ser Phe Arg Lys Leu Ser Phe Thr Glu Ser Leu Thr			
935	940	945	
gga gac agc cca ctg cta tct ctg aac aaa atg ccc cac ggt tat ggg			3177
Gly Asp Ser Pro Leu Leu Ser Leu Asn Lys Met Pro His Gly Tyr Gly			
950	955	960	
cag gaa gga cct att gaa ggc aaa att tag cctgctggcc gttccccac			3227

Gln Glu Gly Pro Ile Glu Gly Lys Ile

965

970

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tgact 3892

<210> 865

<211> 971

<212> PRT

<213> Mus musculus

<400> 865

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Ile Pro Leu Ser Thr Asp Gly Pro Tyr Leu Gln Ile Leu Glu Gln Pro
35 40 45
Lys Gln Arg Gly Phe Arg Phe Arg Tyr Val Cys Glu Gly Pro Ser His
50 55 60

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305	310	315
Ile Thr Lys Pro Ala Ser Val Phe Val Gln Leu Arg Arg Lys Ser Asp		320
	325	330
Leu Glu Thr Ser Glu Pro Lys Pro Phe Leu Tyr Tyr Pro Glu Ile Lys		335
	340	345
Asp Lys Glu Glu Val Gln Arg Lys Arg Gln Lys Leu Met Pro Asn Phe		350
	355	360
Ser Asp Ser Phe Gly Gly Gly Ser Gly Ala Gly Ala Gly Gly Gly Gly		365
	370	375
Met Phe Gly Ser Gly Gly Gly Gly Gly Ser Thr Gly Ser Pro Gly Pro		380
385	390	395
Gly Tyr Gly Tyr Ser Asn Tyr Gly Phe Pro Pro Tyr Gly Gly Ile Thr		400
	405	410
Phe His Pro Gly Val Thr Lys Ser Asn Ala Gly Val Thr His Gly Thr		415
	420	425
Ile Asn Thr Lys Phe Lys Asn Gly Pro Lys Asp Cys Ala Lys Ser Asp		430
	435	440
Asp Glu Glu Ser Leu Thr Leu Pro Glu Lys Glu Thr Glu Gly Glu Gly		445
	450	455
Pro Ser Leu Pro Met Ala Cys Thr Lys Thr Glu Pro Ile Ala Leu Ala		460
465	470	475
Ser Thr Met Glu Asp Lys Glu Gln Asp Met Gly Phe Gln Asp Asn Leu		480
	485	490
Phe Leu Glu Lys Ala Leu Gln Leu Ala Arg Arg His Ala Asn Ala Leu		495
	500	505
Phe Asp Tyr Ala Val Thr Gly Asp Val Lys Met Leu Leu Ala Val Gln		510
	515	520
		525

Arg His Leu Thr Ala Val Gln Asp Glu Asn Gly Asp Ser Val Leu His
 530 535 540
 Leu Ala Ile Ile His Leu His Ala Gln Leu Val Arg Asp Leu Leu Glu
 545 550 555 560
 Val Thr Ser Gly Leu Ile Ser Asp Asp Ile Ile Asn Met Arg Asn Asp
 565 570 575
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 580 585 590
 Val Val Glu Asp Leu Leu Arg Val Gly Ala Asp Leu Ser Leu Leu Asp
 595 600 605
 Arg Trp Gly Asn Ser Val Leu His Leu Ala Ala Lys Glu Gly His Asp
 610 615 620
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 625 630 635 640
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 645 650 655
 Ser Asn Ser Leu Pro Cys Leu Leu Leu Leu Val Ala Ala Gly Ala Glu
 660 665 670
 Val Asn Ala Gln Glu Gln Lys Ser Gly Arg Thr Pro Leu His Leu Ala
 675 680 685
 Val Glu Tyr Asp Asn Ile Ser Leu Ala Gly Cys Leu Leu Leu Glu Gly
 690 695 700
 Asp Ala His Val Asp Ser Thr Thr Tyr Asp Gly Thr Thr Pro Leu His
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 Ile Ala Ala Gly Arg Gly Ser Thr Arg Leu Ala Ala Leu Leu Lys Ala
 725 730 735
 Ala Gly Ala Asp Pro Leu Val Glu Asn Phe Glu Pro Leu Tyr Asp Leu
 740 745 750
 Asp Asp Ser Trp Glu Lys Ala Gly Glu Asp Glu Gly Val Val Pro Gly

755	760	765
Thr Thr Pro Leu Asp Met Ala Ala Asn Trp Gln Val Phe Asp Ile Leu		
770	775	780
Asn Gly Lys Pro Tyr Glu Pro Val Phe Thr Ser Asp Asp Ile Leu Pro		
785	790	795
Gln Gly Asp Met Lys Gln Leu Thr Glu Asp Thr Arg Leu Gln Leu Cys		
805	810	815
Lys Leu Leu Glu Ile Pro Asp Pro Asp Lys Asn Trp Ala Thr Leu Ala		
820	825	830
Gln Lys Leu Gly Leu Gly Ile Leu Asn Asn Ala Phe Arg Leu Ser Pro		
835	840	845
Ala Pro Ser Lys Thr Leu Met Asp Asn Tyr Glu Val Ser Gly Gly Thr		
850	855	860
Ile Lys Glu Leu Met Glu Ala Leu Gln Gln Met Gly Tyr Thr Glu Ala		
865	870	875
Ile Glu Val Ile Gln Ala Ala Phe Arg Thr Pro Ala Thr Thr Ala Ser		
885	890	895
Ser Pro Val Thr Thr Ala Gln Val His Cys Leu Pro Leu Ser Ser Ser		
900	905	910
Ser Thr Arg Gln His Ile Asp Glu Leu Arg Asp Ser Asp Ser Val Cys		
915	920	925
Asp Ser Gly Val Glu Thr Ser Phe Arg Lys Leu Ser Phe Thr Glu Ser		
930	935	940
Leu Thr Gly Asp Ser Pro Leu Leu Ser Leu Asn Lys Met Pro His Gly		
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Tyr Gly Gln Glu Gly Pro Ile Glu Gly Lys Ile		
965	970	

<210> 866

<211> 2174

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (481).. (1881)

<400> 866

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cttctcact tctttccggg tccccattgg ctggctcgct cggcggctag gatggcagtg 300
ggaggggacc ctctttccta acagtgttat aaaagcagcg cccttggcgt igtccagtcc 360
tctgccactc ttgctccggg accccagaga cccagcgct cctacgattc acagccaccg 420
cgccctcatt cccttgttgc agtttttcca gccgcagcaa gccagcccac cticgaagcc 480
atg tct acc agg tct gtg tcc tgg tcc tcc tac cgc agg atg ttc ggt 528
Met Ser Thr Arg Ser Val Ser Ser Ser Ser Tyr Arg Arg Met Phe Gly
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ggc tcc ggc aca tgc agc cgg ccc agc tcc aac cgg agc tat gtg acc 576
Gly Ser Gly Thr Ser Ser Arg Pro Ser Ser Asn Arg Ser Tyr Val Thr
              20              25              30
acg tcc aca cgc acc tac agt ctg ggc agc gca ctg cgc ccc agc act 624
Thr Ser Thr Arg Thr Tyr Ser Leu Gly Ser Ala Leu Arg Pro Ser Thr
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agc cgc agc ctc tat tcc tca tcc ccc ggt ggc gcc tat gtg acc cgg 672
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2129/2644

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Glu Ser Leu Gln Glu Glu Ile Ala Phe Leu Lys Lys Leu His Asp Glu			
225	230	235	240
gag atc cag gag ctg cag gcc cag att cag gaa cag cat gtc cag atc 1248			
Glu Ile Gln Glu Leu Gln Ala Gln Ile Gln Glu Gln His Val Gln Ile			
245	250	255	
gat gtg gac gtt tcc aag cct gac ctc act gct gcc ctg cgt gat gtg 1296			
Asp Val Asp Val Ser Lys Pro Asp Leu Thr Ala Ala Leu Arg Asp Val			
260	265	270	
cgc cag cag tat gaa agc gtg gct gcc aag aac ctc cag gag gcc gag 1344			
Arg Gln Gln Tyr Glu Ser Val Ala Ala Lys Asn Leu Gln Glu Ala Glu			
275	280	285	
gaa tgg tac aag tcc aag ttt gct gac ctc tct gag gct gcc aac cgg 1392			
Glu Trp Tyr Lys Ser Lys Phe Ala Asp Leu Ser Glu Ala Ala Asn Arg			
290	295	300	
aac aac gat gcc ctg cgc cag gcc aag cag gag tca aac gag tac cgg 1440			
Asn Asn Asp Ala Leu Arg Gln Ala Lys Gln Glu Ser Asn Glu Tyr Arg			
305	310	315	320
aga cag gtg cag tca ctc acc tgt gaa gtg gat gcc ctt aaa ggc act 1488			
Arg Gln Val Gln Ser Leu Thr Cys Glu Val Asp Ala Leu Lys Gly Thr			
325	330	335	
aac gag tcc ctg gag cgc cag atg cgt gag atg gaa gag aat ttt gcc 1536			
Asn Glu Ser Leu Glu Arg Gln Met Arg Glu Met Glu Glu Asn Phe Ala			
340	345	350	
ctt gaa gct gct aac tac cag gac act att ggc cgc ctg cag gat gag 1584			
Leu Glu Ala Ala Asn Tyr Gln Asp Thr Ile Gly Arg Leu Gln Asp Glu			
355	360	365	
atc caa aac atg aag gaa gag atg gct cgt cac ctt cgt gaa tac caa 1632			

Ile Gln Asn Met Lys Glu Glu Met Ala Arg His Leu Arg Glu Tyr Gln
 370 375 380
 gat ctg ctc aat gtt aag atg gcc ctg gac att gag atc gcc acc tac 1680
 Asp Leu Leu Asn Val Lys Met Ala Leu Asp Ile Glu Ile Ala Thr Tyr
 385 390 395 400
 agg aag ctg ctg gaa ggc gag gag agc agg att tct ctg cct ctg cca 1728
 Arg Lys Leu Leu Glu Gly Glu Glu Ser Arg Ile Ser Leu Pro Leu Pro
 405 410 415
 acc ttt tct tcc ctg aac ctg aga gaa act aac ctg gag tca ctt cct 1776
 Thr Phe Ser Ser Leu Asn Leu Arg Glu Thr Asn Leu Glu Ser Leu Pro
 420 425 430
 ctg gtt gac acc cac tca aaa aga aca ctc ctg att aag acg gtt gag 1824
 Leu Val Asp Thr His Ser Lys Arg Thr Leu Leu Ile Lys Thr Val Glu
 435 440 445
 acc aga gat gga cag gtg atc aat gag act tct cag cat cac gat gac 1872
 Thr Arg Asp Gly Gln Val Ile Asn Glu Thr Ser Gln His His Asp Asp
 450 455 460
 ctt gaa taa aaattgcaca cacttggtgc aacagtgcag taccagcaag 1921
 Leu Glu
 465
 aaggaaaaaa aaaatcgtat cttaggaaaa cagctttcaa gtgccttttac tgcagttttt 1981
 caggagcgca agatagattt ggaatagaaa gaagctcagc acttaacaac tgacacccca 2041
 aaagcgtaga aaaggtttac aaaataatct agtttacgaa gaaatcttgt gctagaatac 2101
 tttttaaagt atttttgaat accattaaaa ctgctttttt ccagtaaata tctgaccaac 2161
 ttgtttactgc ttc 2174

<210> 867

<211> 466

<212> PRT

<213> *Mus musculus*

<400> 867

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 Gly Ser Gly Thr Ser Ser Arg Pro Ser Ser Asn Arg Ser Tyr Val Thr
 20 25 30
 Thr Ser Thr Arg Thr Tyr Ser Leu Gly Ser Ala Leu Arg Pro Ser Thr
 35 40 45
 Ser Arg Ser Leu Tyr Ser Ser Ser Pro Gly Gly Ala Tyr Val Thr Arg
 50 55 60
 Ser Ser Ala Val Arg Leu Arg Ser Ser Val Pro Gly Val Arg Leu Leu
 65 70 75 80
 Gln Asp Ser Val Asp Phe Ser Leu Ala Asp Ala Ile Asn Thr Glu Phe
 85 90 95
 Lys Asn Thr Arg Thr Asn Glu Lys Val Glu Leu Gln Glu Leu Asn Asp
 100 105 110
 Arg Phe Ala Asn Tyr Ile Asp Lys Val Arg Phe Leu Glu Gln Gln Asn
 115 120 125
 Lys Ile Leu Leu Ala Glu Leu Glu Gln Leu Lys Gly Gln Gly Lys Ser
 130 135 140
 Arg Leu Gly Asp Leu Tyr Glu Glu Glu Met Arg Glu Leu Arg Arg Gln
 145 150 155 160
 Val Asp Gln Leu Thr Asn Asp Lys Ala Arg Val Glu Val Glu Arg Asp
 165 170 175
 Asn Leu Ala Glu Asp Ile Met Arg Leu Arg Glu Lys Leu Gln Glu Glu
 180 185 190
 Met Leu Gln Arg Glu Glu Ala Glu Ser Thr Leu Gln Ser Phe Arg Gln
 195 200 205

Asp Val Asp Asn Ala Ser Leu Ala Arg Leu Asp Leu Glu Arg Lys Val
 210 215 220
 Glu Ser Leu Gln Glu Glu Ile Ala Phe Leu Lys Lys Leu His Asp Glu
 225 230 235 240
 Glu Ile Gln Glu Leu Gln Ala Gln Ile Gln Glu Gln His Val Gln Ile
 245 250 255
 Asp Val Asp Val Ser Lys Pro Asp Leu Thr Ala Ala Leu Arg Asp Val
 260 265 270
 Arg Gln Gln Tyr Glu Ser Val Ala Ala Lys Asn Leu Gln Glu Ala Glu
 275 280 285
 Glu Trp Tyr Lys Ser Lys Phe Ala Asp Leu Ser Glu Ala Ala Asn Arg
 290 295 300
 Asn Asn Asp Ala Leu Arg Gln Ala Lys Gln Glu Ser Asn Glu Tyr Arg
 305 310 315 320
 Arg Gln Val Gln Ser Leu Thr Cys Glu Val Asp Ala Leu Lys Gly Thr
 325 330 335
 Asn Glu Ser Leu Glu Arg Gln Met Arg Glu Met Glu Glu Asn Phe Ala
 340 345 350
 Leu Glu Ala Ala Asn Tyr Gln Asp Thr Ile Gly Arg Leu Gln Asp Glu
 355 360 365
 Ile Gln Asn Met Lys Glu Glu Met Ala Arg His Leu Arg Glu Tyr Gln
 370 375 380
 Asp Leu Leu Asn Val Lys Met Ala Leu Asp Ile Glu Ile Ala Thr Tyr
 385 390 395 400
 Arg Lys Leu Leu Glu Gly Glu Glu Ser Arg Ile Ser Leu Pro Leu Pro
 405 410 415
 Thr Phe Ser Ser Leu Asn Leu Arg Glu Thr Asn Leu Glu Ser Leu Pro
 420 425 430
 Leu Val Asp Thr His Ser Lys Arg Thr Leu Leu Ile Lys Thr Val Glu

435 440 445
 Thr Arg Asp Gly Gln Val Ile Asn Glu Thr Ser Gln His His Asp Asp
 450 455 460

Leu Glu

465

<210> 868

<211> 1722

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (60).. (1448)

<400> 868

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 atg gga aag gaa aag act cac atc aac atc gtc gta atc gga cac gta 107
 Met Gly Lys Glu Lys Thr His Ile Asn Ile Val Val Ile Gly His Val
 1 5 10 15
 gat tcc ggc aag tcc acc aca acc ggc cac ctg atc tac aaa tgt ggc 155
 Asp Ser Gly Lys Ser Thr Thr Thr Gly His Leu Ile Tyr Lys Cys Gly
 20 25 30
 gga atc gac aag cga acc atc gaa aag ttt gag aag gag gct gct gag 203
 Gly Ile Asp Lys Arg Thr Ile Glu Lys Phe Glu Lys Glu Ala Ala Glu
 35 40 45
 atg gga aag ggc tcc ttc aag tac gcc tgg gtc tta gac aaa ctg aaa 251
 Met Gly Lys Gly Ser Phe Lys Tyr Ala Trp Val Leu Asp Lys Leu Lys
 50 55 60

gct gag cgt gag cgt ggt atc act att gac atc tcc ctg tgg aaa ttc	299
Ala Glu Arg Glu Arg Gly Ile Thr Ile Asp Ile Ser Leu Trp Lys Phe	
65 70 75 80	
gag acc agc aaa tac tat gtg acc atc att gat gcc cca gga cac aga	347
Glu Thr Ser Lys Tyr Tyr Val Thr Ile Ile Asp Ala Pro Gly His Arg	
85 90 95	
gac ttc atc aaa aac atg att aca ggc aca tcc cag gct gac tgt gct	395
Asp Phe Ile Lys Asn Met Ile Thr Gly Thr Ser Gln Ala Asp Cys Ala	
100 105 110	
gtc ctg att gtt gct gct ggt gtt ggt gaa ttt gaa gct ggt atc tcc	443
Val Leu Ile Val Ala Ala Gly Val Gly Glu Phe Glu Ala Gly Ile Ser	
115 120 125	
aag aac ggg cag acc cgc gag cat gct ctt ctg gct tac acc ctg ggt	491
Lys Asn Gly Gln Thr Arg Glu His Ala Leu Leu Ala Tyr Thr Leu Gly	
130 135 140	
gtg aaa cag ctg att gtt ggt gtc aac aaa atg gat tcc acc gag cca	539
Val Lys Gln Leu Ile Val Gly Val Asn Lys Met Asp Ser Thr Glu Pro	
145 150 155 160	
cca tac agt cag aag aga tac gag gaa atc gtt aag gaa gtc agc acc	587
Pro Tyr Ser Gln Lys Arg Tyr Glu Glu Ile Val Lys Glu Val Ser Thr	
165 170 175	
tac att aag aaa att ggc tac aac cct gac aca gta gca ttt gtg cca	635
Tyr Ile Lys Lys Ile Gly Tyr Asn Pro Asp Thr Val Ala Phe Val Pro	
180 185 190	
att tct ggt tgg aat gga gac aac atg ctg gag cca agt gct aat atg	683
Ile Ser Gly Trp Asn Gly Asp Asn Met Leu Glu Pro Ser Ala Asn Met	
195 200 205	
cct tgg ttc aag gga tgg aaa gtc acg cgc aaa gat ggg cat gcc agt	731
Pro Trp Phe Lys Gly Trp Lys Val Thr Arg Lys Asp Gly His Ala Ser	

210	215	220	
ggc acc acg ctg ctg gaa gct ttg gat tgt atc cta cca cca act cgt			779
Gly Thr Thr Leu Leu Glu Ala Leu Asp Cys Ile Leu Pro Pro Thr Arg			
225	230	235	240
cca act gac aag ccc ctg cga ctg ccc ctc cag gat gtc tat aaa att			827
Pro Thr Asp Lys Pro Leu Arg Leu Pro Leu Gln Asp Val Tyr Lys Ile			
245	250	255	
gga ggc att ggc act gtc cct gtg ggc cga gtg gag act ggt gtt ctc			875
Gly Gly Ile Gly Thr Val Pro Val Gly Arg Val Glu Thr Gly Val Leu			
260	265	270	
aag cct ggc atg gtg gtt acc ttt gct cca gtc aat gta aca act gaa			923
Lys Pro Gly Met Val Val Thr Phe Ala Pro Val Asn Val Thr Thr Glu			
275	280	285	
gtc aag tct gtt gaa atg cat cat gaa gct ttg agt gaa gct ctt cct			971
Val Lys Ser Val Glu Met His His Glu Ala Leu Ser Glu Ala Leu Pro			
290	295	300	
ggg gac aat gtg ggc ttc aat gta aag aac gtg tcg gtc aaa gat gtt			1019
Gly Asp Asn Val Gly Phe Asn Val Lys Asn Val Ser Val Lys Asp Val			
305	310	315	320
aga cga ggc aat gtt gct ggt gac agc aaa aac gac cca cca atg gaa			1067
Arg Arg Gly Asn Val Ala Gly Asp Ser Lys Asn Asp Pro Pro Met Glu			
325	330	335	
gca gct ggc ttc act gct cag gtg att atc ctg aac cat cca ggc caa			1115
Ala Ala Gly Phe Thr Ala Gln Val Ile Ile Leu Asn His Pro Gly Gln			
340	345	350	
atc agt gct ggc tac gct cct gtt ctg gat tgt cac aca gcc cac ata			1163
Ile Ser Ala Gly Tyr Ala Pro Val Leu Asp Cys His Thr Ala His Ile			
355	360	365	
gca tgc aag ttt gct gag ctt aaa gaa aag atc gat cgt cgt tct ggt			1211

Ala Cys Lys Phe Ala Glu Leu Lys Glu Lys Ile Asp Arg Arg Ser Gly
 370 375 380
 aag aag ctg gaa gat ggc ccc aag ttc ctg aag tct ggc gat gct gcc 1259
 Lys Lys Leu Glu Asp Gly Pro Lys Phe Leu Lys Ser Gly Asp Ala Ala
 385 390 395 400
 att gtt gat atg gtc cct ggc aag ccc atg tgt gtt gag agc ttc tct 1307
 Ile Val Asp Met Val Pro Gly Lys Pro Met Cys Val Glu Ser Phe Ser
 405 410 415
 gac tac cct cca ctt ggt cgc ttt gct gtt cgc gac atg agg cag aca 1355
 Asp Tyr Pro Pro Leu Gly Arg Phe Ala Val Arg Asp Met Arg Gln Thr
 420 425 430
 gtt gct gtg ggt gtc atc aaa gct gtg gac aag aag gct gct gga gct 1403
 Val Ala Val Gly Val Ile Lys Ala Val Asp Lys Lys Ala Ala Gly Ala
 435 440 445
 ggc aaa gtc acc aag tct gcc cag aaa gct cag aag gct aaa tga 1448
 Gly Lys Val Thr Lys Ser Ala Gln Lys Ala Gln Lys Ala Lys
 450 455 460
 atattacccc taacacctgc caccacagtc ttaatcagtg gtggaagaac ggtctcagaa 1508
 ctgtttgtct caattggcca ttttaagttta atagtaaaac actggttaat gataacaatg 1568
 catcgtaaaa ccttcagaag gaaagaatgt tgtggacat tttttttgtg tgtggcagtt 1628
 ttaagttatt agttttcaaa atcagttactt ttttaatggaa acaacttgac caaaatctgt 1688
 cacagatfff gagaccatta aacaaggfff aatg 1722

<210> 869

<211> 462

<212> PRT

<213> Mus musculus

<400> 869

Met Gly Lys Glu Lys Thr His Ile Asn Ile Val Val Ile Gly His Val
 1 5 10 15
 Asp Ser Gly Lys Ser Thr Thr Thr Gly His Leu Ile Tyr Lys Cys Gly
 20 25 30
 Gly Ile Asp Lys Arg Thr Ile Glu Lys Phe Glu Lys Glu Ala Ala Glu
 35 40 45
 Met Gly Lys Gly Ser Phe Lys Tyr Ala Trp Val Leu Asp Lys Leu Lys
 50 55 60
 Ala Glu Arg Glu Arg Gly Ile Thr Ile Asp Ile Ser Leu Trp Lys Phe
 65 70 75 80
 Glu Thr Ser Lys Tyr Tyr Val Thr Ile Ile Asp Ala Pro Gly His Arg
 85 90 95
 Asp Phe Ile Lys Asn Met Ile Thr Gly Thr Ser Gln Ala Asp Cys Ala
 100 105 110
 Val Leu Ile Val Ala Ala Gly Val Gly Glu Phe Glu Ala Gly Ile Ser
 115 120 125
 Lys Asn Gly Gln Thr Arg Glu His Ala Leu Leu Ala Tyr Thr Leu Gly
 130 135 140
 Val Lys Gln Leu Ile Val Gly Val Asn Lys Met Asp Ser Thr Glu Pro
 145 150 155 160
 Pro Tyr Ser Gln Lys Arg Tyr Glu Glu Ile Val Lys Glu Val Ser Thr
 165 170 175
 Tyr Ile Lys Lys Ile Gly Tyr Asn Pro Asp Thr Val Ala Phe Val Pro
 180 185 190
 Ile Ser Gly Trp Asn Gly Asp Asn Met Leu Glu Pro Ser Ala Asn Met
 195 200 205
 Pro Trp Phe Lys Gly Trp Lys Val Thr Arg Lys Asp Gly His Ala Ser
 210 215 220
 Gly Thr Thr Leu Leu Glu Ala Leu Asp Cys Ile Leu Pro Pro Thr Arg

225	230	235	240
Pro Thr Asp Lys	Pro Leu Arg Leu	Pro Leu Gln Asp Val Tyr Lys Ile	
245	250	255	
Gly Gly Ile Gly Thr Val Pro Val Gly Arg Val Glu Thr Gly Val Leu			
260	265	270	
Lys Pro Gly Met Val Val Thr Phe Ala Pro Val Asn Val Thr Thr Glu			
275	280	285	
Val Lys Ser Val Glu Met His His Glu Ala Leu Ser Glu Ala Leu Pro			
290	295	300	
Gly Asp Asn Val Gly Phe Asn Val Lys Asn Val Ser Val Lys Asp Val			
305	310	315	320
Arg Arg Gly Asn Val Ala Gly Asp Ser Lys Asn Asp Pro Pro Met Glu			
325	330	335	
Ala Ala Gly Phe Thr Ala Gln Val Ile Ile Leu Asn His Pro Gly Gln			
340	345	350	
Ile Ser Ala Gly Tyr Ala Pro Val Leu Asp Cys His Thr Ala His Ile			
355	360	365	
Ala Cys Lys Phe Ala Glu Leu Lys Glu Lys Ile Asp Arg Arg Ser Gly			
370	375	380	
Lys Lys Leu Glu Asp Gly Pro Lys Phe Leu Lys Ser Gly Asp Ala Ala			
385	390	395	400
Ile Val Asp Met Val Pro Gly Lys Pro Met Cys Val Glu Ser Phe Ser			
405	410	415	
Asp Tyr Pro Pro Leu Gly Arg Phe Ala Val Arg Asp Met Arg Gln Thr			
420	425	430	
Val Ala Val Gly Val Ile Lys Ala Val Asp Lys Lys Ala Ala Gly Ala			
435	440	445	
Gly Lys Val Thr Lys Ser Ala Gln Lys Ala Gln Lys Ala Lys			
450	455	460	

<210> 870

<211> 1766

<212> DNA

<213> *Mus musculus*

<220>

<221> CDS

<222> (220).. (1380)

<400> 870

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gggctttttt tgtgtaatcg ctgccaaaga agaaagcgaa gtagcctccg gtcaagcgag 120
gaggccggct cttccgcagc catagcccgc ctcaaggatt tgggaggtag cgaagggcag 180
ggagctggac cctgaggtgc cgccgcgacc gcagcagcc atg gag gac gag atg      234
                                     Met Glu Asp Glu Met
                                     1           5
ccc aag act cta tac gtc ggt aac ctt tct cga gat gtg aca gaa gct      282
Pro Lys Thr Leu Tyr Val Gly Asn Leu Ser Arg Asp Val Thr Glu Ala
                10                15                20
ctc atc ctc cag ctc ttt agc cag att gga cct tgt aaa aac tgc aaa      330
Leu Ile Leu Gln Leu Phe Ser Gln Ile Gly Pro Cys Lys Asn Cys Lys
                25                30                35
atg att atg gat aca gca gga aat gac cca tac tgt ttt gtg gag ttc      378
Met Ile Met Asp Thr Ala Gly Asn Asp Pro Tyr Cys Phe Val Glu Phe
                40                45                50
cat gag cac cgt cat gca gct gca gcc ctg gct gcc atg aat ggg cgg      426
His Glu His Arg His Ala Ala Ala Ala Leu Ala Ala Met Asn Gly Arg
                55                60                65

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aag ata atg ggt aag gaa gtg aaa gtg aat tgg gca aca acc cct agc 474
Lys Ile Met Gly Lys Glu Val Lys Val Asn Trp Ala Thr Thr Pro Ser
70 75 80 85
agt caa aag aag gat acg agc agt agt acc gtt gtc agc aca cag cgt 522
Ser Gln Lys Lys Asp Thr Ser Ser Ser Thr Val Val Ser Thr Gln Arg
90 95 100
tca caa gat cat ttc cat gtg ttt gtt ggt gac ctc agt cca gaa atc 570
Ser Gln Asp His Phe His Val Phe Val Gly Asp Leu Ser Pro Glu Ile
105 110 115
aca acc gaa gac atc aaa gca gcg ttt gca cca ttt gga aga att tca 618
Thr Thr Glu Asp Ile Lys Ala Ala Phe Ala Pro Phe Gly Arg Ile Ser
120 125 130
gat gcc cgt gtg gta aaa gac atg gct acc ggg aag tct aag gga tat 666
Asp Ala Arg Val Val Lys Asp Met Ala Thr Gly Lys Ser Lys Gly Tyr
135 140 145
ggc ttt gtc tcc ttt ttc aac aaa tgg gat gca gaa aat gcc att cag 714
Gly Phe Val Ser Phe Phe Asn Lys Trp Asp Ala Glu Asn Ala Ile Gln
150 155 160 165
cag atg ggt ggc cag tgg ctt ggt gga aga caa atc aga act aac tgg 762
Gln Met Gly Gly Gln Trp Leu Gly Gly Arg Gln Ile Arg Thr Asn Trp
170 175 180
gca acc cga aag cct cca gct cca aag agt aca tat gag tcg aac acc 810
Ala Thr Arg Lys Pro Pro Ala Pro Lys Ser Thr Tyr Glu Ser Asn Thr
185 190 195
aaa cag ctg tca tat gat gag gtt gtg agt cag tct agt ccc aac aac 858
Lys Gln Leu Ser Tyr Asp Glu Val Val Ser Gln Ser Ser Pro Asn Asn
200 205 210
tgc act gtg tac tgt gga ggg gtg acg tca gga ctg aca gaa caa cta 906
Cys Thr Val Tyr Cys Gly Gly Val Thr Ser Gly Leu Thr Glu Gln Leu

215	220	225	
atg cgt cag act ttt tct cca ttt gga caa ata atg gaa att cga gtc			954
Met Arg Gln Thr Phe Ser Pro Phe Gly Gln Ile Met Glu Ile Arg Val			
230	235	240	245
ttc cca gat aaa gga tac tca ttt gtt cgg ttc agt tcc cat gaa agt			1002
Phe Pro Asp Lys Gly Tyr Ser Phe Val Arg Phe Ser Ser His Glu Ser			
250	255	260	
gca gca cat gcg att gtt tct gtt aat ggt act acc att gaa ggg cat			1050
Ala Ala His Ala Ile Val Ser Val Asn Gly Thr Thr Ile Glu Gly His			
265	270	275	
gtg gtg aaa tgt tat tgg ggc aaa gag act ctt gat atg ata aac cct			1098
Val Val Lys Cys Tyr Trp Gly Lys Glu Thr Leu Asp Met Ile Asn Pro			
280	285	290	
gtg caa cag caa aat caa att gga tat cca cca aca tat ggc cag tgg			1146
Val Gln Gln Gln Asn Gln Ile Gly Tyr Pro Pro Thr Tyr Gly Gln Trp			
295	300	305	
ggc cag tgg tat gga aat gca caa cag att ggc cag tat gtg cct aac			1194
Gly Gln Trp Tyr Gly Asn Ala Gln Gln Ile Gly Gln Tyr Val Pro Asn			
310	315	320	325
ggc tgg caa gta cct gcc tat gga gtg tat ggc cag cca tgg agc cag			1242
Gly Trp Gln Val Pro Ala Tyr Gly Val Tyr Gly Gln Pro Trp Ser Gln			
330	335	340	
cag ggg ttc aat cag acc cag tct tct gca ccg tgg atg gga ccc aat			1290
Gln Gly Phe Asn Gln Thr Gln Ser Ser Ala Pro Trp Met Gly Pro Asn			
345	350	355	
tac agt gtg cca cca cct caa ggg cag aat ggc agc atg ttg cct agt			1338
Tyr Ser Val Pro Pro Pro Gln Gly Gln Asn Gly Ser Met Leu Pro Ser			
360	365	370	
cag cct gct ggg tat cga gtg gcc ggg tat gaa acc cag tga			1380

Gln Pro Ala Gly Tyr Arg Val Ala Gly Tyr Glu Thr Gln

375

380

385

aaacagacta cagaacggaa gccagtgcgt tgaagcaggg agggtaggaa aactgttggt 1440
 tacgtaaaga tttatcaa at cagtcagtac aaattgccag atacaatgta tttattttaaa 1500
 agattcattt ttttaatcat gaaattactt ttcattccaca ttgtttttaaa aaggaacacg 1560
 atgggtgatg ttgccaatt ttgtctcctt cattatcttt ttgataaag tttctcagat 1620
 ccttgtttca aagacaaatg cagggattac tgccaccttt ttaaaaataa gaggcagaaa 1680
 attgcacaat gtigaacttt tctccactaa aatcgtgtgc agtttttagtt tgcattcctg 1740
 ataggattta aaacatgtaa tataga 1766

<210> 871

<211> 386

<212> PRT

<213> Mus musculus

<400> 871

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1

5

10

15

Asp Val Thr Glu Ala Leu Ile Leu Gln Leu Phe Ser Gln Ile Gly Pro

20

25

30

Cys Lys Asn Cys Lys Met Ile Met Asp Thr Ala Gly Asn Asp Pro Tyr

35

40

45

Cys Phe Val Glu Phe His Glu His Arg His Ala Ala Ala Ala Leu Ala

50

55

60

Ala Met Asn Gly Arg Lys Ile Met Gly Lys Glu Val Lys Val Asn Trp

65

70

75

80

Ala Thr Thr Pro Ser Ser Gln Lys Lys Asp Thr Ser Ser Ser Thr Val

85

90

95

Val Ser Thr Gln Arg Ser Gln Asp His Phe His Val Phe Val Gly Asp

100	105	110
Leu Ser Pro Glu Ile Thr Thr Glu Asp Ile Lys Ala Ala Phe Ala Pro		
115	120	125
Phe Gly Arg Ile Ser Asp Ala Arg Val Val Lys Asp Met Ala Thr Gly		
130	135	140
Lys Ser Lys Gly Tyr Gly Phe Val Ser Phe Phe Asn Lys Trp Asp Ala		
145	150	155
Glu Asn Ala Ile Gln Gln Met Gly Gly Gln Trp Leu Gly Gly Arg Gln		
165	170	175
Ile Arg Thr Asn Trp Ala Thr Arg Lys Pro Pro Ala Pro Lys Ser Thr		
180	185	190
Tyr Glu Ser Asn Thr Lys Gln Leu Ser Tyr Asp Glu Val Val Ser Gln		
195	200	205
Ser Ser Pro Asn Asn Cys Thr Val Tyr Cys Gly Gly Val Thr Ser Gly		
210	215	220
Leu Thr Glu Gln Leu Met Arg Gln Thr Phe Ser Pro Phe Gly Gln Ile		
225	230	235
Met Glu Ile Arg Val Phe Pro Asp Lys Gly Tyr Ser Phe Val Arg Phe		
245	250	255
Ser Ser His Glu Ser Ala Ala His Ala Ile Val Ser Val Asn Gly Thr		
260	265	270
Thr Ile Glu Gly His Val Val Lys Cys Tyr Trp Gly Lys Glu Thr Leu		
275	280	285
Asp Met Ile Asn Pro Val Gln Gln Gln Asn Gln Ile Gly Tyr Pro Pro		
290	295	300
Thr Tyr Gly Gln Trp Gly Gln Trp Tyr Gly Asn Ala Gln Gln Ile Gly		
305	310	315
Gln Tyr Val Pro Asn Gly Trp Gln Val Pro Ala Tyr Gly Val Tyr Gly		
325	330	335

Gln Pro Trp Ser Gln Gln Gly Phe Asn Gln Thr Gln Ser Ser Ala Pro
 340 345 350
 Trp Met Gly Pro Asn Tyr Ser Val Pro Pro Pro Gln Gly Gln Asn Gly
 355 360 365
 Ser Met Leu Pro Ser Gln Pro Ala Gly Tyr Arg Val Ala Gly Tyr Glu
 370 375 380
 Thr Gln
 385

<210> 872

<211> 1877

<212> DNA

<213> *Mus musculus*

<220>

<221> CDS

<222> (197).. (1531)

<400> 872

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 ccttcccaaa ctctcaccct gagggcctct caccacagat gccctgctct ctgacctgga 180
 gaccaccact tcacac atg tca cgg tta ggg gct cca aaa gag cgc cca cca 232
 Met Ser Arg Leu Gly Ala Pro Lys Glu Arg Pro Pro
 1 5 10
 gag aca ctc aca cct ccc cca ccc tat ggc cac cag cca cag aca ggg 280
 Glu Thr Leu Thr Pro Pro Pro Pro Tyr Gly His Gln Pro Gln Thr Gly
 15 20 25
 tct gga gaa tct tca gga acc act ggg gac aag gat cat cta tac agc 328

Ser Gly Glu Ser Ser Gly Thr Thr Gly Asp Lys Asp His Leu Tyr Ser
 30 35 40
 aca gta tgc aag cct cgg tcc cca aag cct gtg gcc cct gtg gct cct 376
 Thr Val Cys Lys Pro Arg Ser Pro Lys Pro Val Ala Pro Val Ala Pro
 45 50 55 60
 cca ttc tcc tct tcc agt ggt gtg ttg ggc aat ggc ctc tgt gag cta 424
 Pro Phe Ser Ser Ser Ser Gly Val Leu Gly Asn Gly Leu Cys Glu Leu
 65 70 75
 gac cgt ttg ctt cag gaa ctt aat gcc acc cag ttc aac att aca gat 472
 Asp Arg Leu Leu Gln Glu Leu Asn Ala Thr Gln Phe Asn Ile Thr Asp
 80 85 90
 gaa atc atg tct cag ttc cca tct agt aaa atg gct gaa ggg gaa gag 520
 Glu Ile Met Ser Gln Phe Pro Ser Ser Lys Met Ala Glu Gly Glu Glu
 95 100 105
 aag gag gac caa tct gaa gac aag agc tca ccc act gtc cct ccc agc 568
 Lys Glu Asp Gln Ser Glu Asp Lys Ser Ser Pro Thr Val Pro Pro Ser
 110 115 120
 cca ttc cct gcc ccc tca aag cct tca gcc acc tcc gcc act cag gaa 616
 Pro Phe Pro Ala Pro Ser Lys Pro Ser Ala Thr Ser Ala Thr Gln Glu
 125 130 135 140
 ctg gat aga ctg atg gcc tgc ctc tct gac ttc cgt gtt cag aac cat 664
 Leu Asp Arg Leu Met Ala Ser Leu Ser Asp Phe Arg Val Gln Asn His
 145 150 155
 ctt cca gcc tca ggg cca cct cag cct cca gca gcg agc ccc acc cgt 712
 Leu Pro Ala Ser Gly Pro Pro Gln Pro Pro Ala Ala Ser Pro Thr Arg
 160 165 170
 gaa gga tgc cca tct cca cca gga cag act agc aaa ggc agt ctg gac 760
 Glu Gly Cys Pro Ser Pro Pro Gly Gln Thr Ser Lys Gly Ser Leu Asp
 175 180 185

acc atg ctg ggc ctg ctg cag tct gac ctc agc cgt cgt ggt gtc ccc 808
 Thr Met Leu Gly Leu Leu Gln Ser Asp Leu Ser Arg Arg Gly Val Pro
 190 195 200
 aca cag gcc aaa ggc ctc tgt ggc tcc tgc aat aaa cct ata gct ggg 856
 Thr Gln Ala Lys Gly Leu Cys Gly Ser Cys Asn Lys Pro Ile Ala Gly
 205 210 215 220
 caa gtg gtt aca gcc ctg ggc aga gcc tgg cac ccg gag cac ttc ctt 904
 Gln Val Val Thr Ala Leu Gly Arg Ala Trp His Pro Glu His Phe Leu
 225 230 235
 tgc agc ggt tgt tcc aca acc ctg gga ggc agc agc ttc ttc gag aag 952
 Cys Ser Gly Cys Ser Thr Thr Leu Gly Gly Ser Ser Phe Phe Glu Lys
 240 245 250
 gat ggg gct ccc ttt tgc ccc gag tgc tac ttt gag cgc ttc tcc cca 1000
 Asp Gly Ala Pro Phe Cys Pro Glu Cys Tyr Phe Glu Arg Phe Ser Pro
 255 260 265
 cga tgt ggc ttc tgt aac caa ccc atc cga cac aaa atg gtt acc gcc 1048
 Arg Cys Gly Phe Cys Asn Gln Pro Ile Arg His Lys Met Val Thr Ala
 270 275 280
 ttg ggc acc cac tgg cac cca gaa cat ttc tgc tgc gtc agc tgc gga 1096
 Leu Gly Thr His Trp His Pro Glu His Phe Cys Cys Val Ser Cys Gly
 285 290 295 300
 gag cct ttt gga gaa gag ggt ttc cac gag cgg gag ggt cgt ccg tac 1144
 Glu Pro Phe Gly Glu Glu Gly Phe His Glu Arg Glu Gly Arg Pro Tyr
 305 310 315
 tgc cgg cgg gac ttc ctg cag ctg ttc gcc cca cgc tgc cag ggc tgc 1192
 Cys Arg Arg Asp Phe Leu Gln Leu Phe Ala Pro Arg Cys Gln Gly Cys
 320 325 330
 caa ggc cct att ttg gat aac tac atc tcg gca ctc agc gcg ctc tgg 1240
 Gln Gly Pro Ile Leu Asp Asn Tyr Ile Ser Ala Leu Ser Ala Leu Trp

335	340	345	
cac cca gac tgc ttc gtg tgc agg gaa tgc ctt gcg ccc ttc tcc gga	1288		
His Pro Asp Cys Phe Val Cys Arg Glu Cys Leu Ala Pro Phe Ser Gly			
350	355	360	
ggc agc ttt ttt gag cac gag ggt cgc cct ttg tgt gaa aac cat ttc	1336		
Gly Ser Phe Phe Glu His Glu Gly Arg Pro Leu Cys Glu Asn His Phe			
365	370	375	380
cat gct cag cgt ggt tcg ctg tgt gcc acg tgt ggt ctc cca gtg acc	1384		
His Ala Gln Arg Gly Ser Leu Cys Ala Thr Cys Gly Leu Pro Val Thr			
385	390	395	
ggc cgc tgt gtg tcc gct ctg ggc cga cgc ttc cat cca gac cac ttc	1432		
Gly Arg Cys Val Ser Ala Leu Gly Arg Arg Phe His Pro Asp His Phe			
400	405	410	
acc tgc aca ttc tgc ctg cgc cca ctc acc aaa ggc tcc ttc cag gag	1480		
Thr Cys Thr Phe Cys Leu Arg Pro Leu Thr Lys Gly Ser Phe Gln Glu			
415	420	425	
cgc gcc agc aag cct tac tgc cag cct tgc ttc ctg aag ctc ttc ggc	1528		
Arg Ala Ser Lys Pro Tyr Cys Gln Pro Cys Phe Leu Lys Leu Phe Gly			
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tga cctcctcttg gcatcagaga tctccaaaac taagccttca aaaacacatt	1581		
445			
cgigaaaaag actgagtcct ccagatccct ggctctggag ctaccaggc atccttgctc	1641		
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tctaggtttg tcaatttcag aaagggcccc attagcctgg aatgtagctc tcactttgac	1761		
atgattctgg ttctcttgct tgaccaagta gaggccagga tgtccctggt caccatggc	1821		
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<210> 873

<211> 444

<212> PRT

<213> Mus musculus

<400> 873

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      20             25             30
Ser Gly Thr Thr Gly Asp Lys Asp His Leu Tyr Ser Thr Val Cys Lys
      35             40             45
Pro Arg Ser Pro Lys Pro Val Ala Pro Val Ala Pro Pro Phe Ser Ser
      50             55             60
Ser Ser Gly Val Leu Gly Asn Gly Leu Cys Glu Leu Asp Arg Leu Leu
      65             70             75             80
Gln Glu Leu Asn Ala Thr Gln Phe Asn Ile Thr Asp Glu Ile Met Ser
      85             90             95
Gln Phe Pro Ser Ser Lys Met Ala Glu Gly Glu Glu Lys Glu Asp Gln
      100            105            110
Ser Glu Asp Lys Ser Ser Pro Thr Val Pro Pro Ser Pro Phe Pro Ala
      115            120            125
Pro Ser Lys Pro Ser Ala Thr Ser Ala Thr Gln Glu Leu Asp Arg Leu
      130            135            140
Met Ala Ser Leu Ser Asp Phe Arg Val Gln Asn His Leu Pro Ala Ser
      145            150            155            160
Gly Pro Pro Gln Pro Pro Ala Ala Ser Pro Thr Arg Glu Gly Cys Pro
      165            170            175
Ser Pro Pro Gly Gln Thr Ser Lys Gly Ser Leu Asp Thr Met Leu Gly
      180            185            190
Leu Leu Gln Ser Asp Leu Ser Arg Arg Gly Val Pro Thr Gln Ala Lys

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195	200	205
Gly Leu Cys Gly Ser Cys Asn Lys Pro Ile Ala Gly Gln Val Val Thr		
210	215	220
Ala Leu Gly Arg Ala Trp His Pro Glu His Phe Leu Cys Ser Gly Cys		
225	230	235
Ser Thr Thr Leu Gly Gly Ser Ser Phe Phe Glu Lys Asp Gly Ala Pro		240
245	250	255
Phe Cys Pro Glu Cys Tyr Phe Glu Arg Phe Ser Pro Arg Cys Gly Phe		
260	265	270
Cys Asn Gln Pro Ile Arg His Lys Met Val Thr Ala Leu Gly Thr His		
275	280	285
Trp His Pro Glu His Phe Cys Cys Val Ser Cys Gly Glu Pro Phe Gly		
290	295	300
Glu Glu Gly Phe His Glu Arg Glu Gly Arg Pro Tyr Cys Arg Arg Asp		
305	310	315
Phe Leu Gln Leu Phe Ala Pro Arg Cys Gln Gly Cys Gln Gly Pro Ile		320
325	330	335
Leu Asp Asn Tyr Ile Ser Ala Leu Ser Ala Leu Trp His Pro Asp Cys		
340	345	350
Phe Val Cys Arg Glu Cys Leu Ala Pro Phe Ser Gly Gly Ser Phe Phe		
355	360	365
Glu His Glu Gly Arg Pro Leu Cys Glu Asn His Phe His Ala Gln Arg		
370	375	380
Gly Ser Leu Cys Ala Thr Cys Gly Leu Pro Val Thr Gly Arg Cys Val		
385	390	395
Ser Ala Leu Gly Arg Arg Phe His Pro Asp His Phe Thr Cys Thr Phe		400
405	410	415
Cys Leu Arg Pro Leu Thr Lys Gly Ser Phe Gln Glu Arg Ala Ser Lys		
420	425	430

Pro Tyr Cys Gln Pro Cys Phe Leu Lys Leu Phe Gly

435

440

<210> 874

<211> 2908

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (626).. (2050)

<400> 874

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cgcccgtagc ccgcgcccac ggccgcgcgc acccggtaca gtccccagga ctccgcaccc 180
cgcgccaccg tccagctcgc agttccgcgc caccgcggcc attctcacct ggcggcgcgc 240
cccgccaccg cccggaccac agccccgcgc ccgcccagag ccacagtggc cgcgacaacg 300
gtgggggaca ctgctgagtc caagagcgtg cagcctggcc atcggacctt cttatctgcc 360
ttgctgattg tctatittta taagagttta caacttttct aagaattttt gtatacaaag 420
gaactttttt taaagacatc gccggtttat attgaatcca aagaagaagg atctcgggca 480
atctgggggt ttigtgttga ggttttggtt ctaaagtgtt taatcttcgt tgactttggg 540
gtcaggttac cctctctct tcttcggact ccggaggacc ttctggggcc ccacattaat 600
gaggcagcca cctggcgagt ctgac atg gct gtc agc gac gct ctg ctc ccg 652

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Met Ala Val Ser Asp Ala Leu Leu Pro

1

5

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tcc ttc tcc acg ttc gcg tcc ggc ccg gcg gga agg gag aag aca ctg 700

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Ser Phe Ser Thr Phe Ala Ser Gly Pro Ala Gly Arg Glu Lys Thr Leu

10

15

20

25

cgt cca gca ggt gcc ccg act aac cgt tgg cgt gag gaa ctc tct cac	748
Arg Pro Ala Gly Ala Pro Thr Asn Arg Trp Arg Glu Glu Leu Ser His	
30 35 40	
atg aag cga ctt ccc cca ctt ccc ggc cgc ccc tac gac ctg gcg gcg	796
Met Lys Arg Leu Pro Pro Leu Pro Gly Arg Pro Tyr Asp Leu Ala Ala	
45 50 55	
acg gtg gcc aca gac ctg gag agt ggc gga gct ggt gca gct tgc agc	844
Thr Val Ala Thr Asp Leu Glu Ser Gly Gly Ala Gly Ala Ala Cys Ser	
60 65 70	
agt aac aac ccg gcc ctc cta gcc cgg agg gag acc gag gag ttc aac	892
Ser Asn Asn Pro Ala Leu Leu Ala Arg Arg Glu Thr Glu Glu Phe Asn	
75 80 85	
gac ctc ctg gac cta gac ttt atc ctt tcc aac tcg cta acc cac cag	940
Asp Leu Leu Asp Leu Asp Phe Ile Leu Ser Asn Ser Leu Thr His Gln	
90 95 100 105	
gaa tcg gtg gcc gcc acc gtg acc acc tcg gcg tca gct tca tcc tcg	988
Glu Ser Val Ala Ala Thr Val Thr Thr Ser Ala Ser Ala Ser Ser Ser	
110 115 120	
tct tcc ccg gcg agc agc ggc cct gcc agc gcg ccc tcc acc tgc agc	1036
Ser Ser Pro Ala Ser Ser Gly Pro Ala Ser Ala Pro Ser Thr Cys Ser	
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ttc agc tat ccg atc cgg gcc ggg ggt gac ccg ggc gtg gct gcc aga	1084
Phe Ser Tyr Pro Ile Arg Ala Gly Gly Asp Pro Gly Val Ala Ala Arg	
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aac aca ggt gga ggg ctc ctc tac agc cga gaa tct gcg cca cct ccc	1132
Asn Thr Gly Gly Gly Leu Leu Tyr Ser Arg Glu Ser Ala Pro Pro Pro	
155 160 165	
acg gcc ccc ttc aac ctg ggg gac atc aat gac gtg agc ccc tcg ggc	1180
Thr Ala Pro Phe Asn Leu Gly Asp Ile Asn Asp Val Ser Pro Ser Gly	

170	175	180	185	
ggc ttc gtg gct gag ctc ctg cgg ccg gag ttg gac cca gta tac att	1228			
Gly Phe Val Ala Glu Leu Leu Arg Pro Glu Leu Asp Pro Val Tyr Ile				
190	195	200		
ccg cca cag cag cct cag ccg cca ggt ggg ggg ctg atg ggc aag ttt	1276			
Pro Pro Gln Gln Pro Gln Pro Pro Gly Gly Gly Leu Met Gly Lys Phe				
205	210	215		
gtg ctg aag gcg tct ctg acc acc cct ggc agc gag tac agc agc cct	1324			
Val Leu Lys Ala Ser Leu Thr Thr Pro Gly Ser Glu Tyr Ser Ser Pro				
220	225	230		
tcg gtc atc agt gtt agc aaa gga agc cca gac ggc agc cac ccc gtg	1372			
Ser Val Ile Ser Val Ser Lys Gly Ser Pro Asp Gly Ser His Pro Val				
235	240	245		
gta gtg gcg ccc tac agc ggt ggc ccg ccg cgc atg tgc ccc aag att	1420			
Val Val Ala Pro Tyr Ser Gly Gly Pro Pro Arg Met Cys Pro Lys Ile				
250	255	260	265	
aag caa gag gcg gtc ccg tcc tgc acg gtc agc cgg tcc cta gag gcc	1468			
Lys Gln Glu Ala Val Pro Ser Cys Thr Val Ser Arg Ser Leu Glu Ala				
270	275	280		
cat ttg agc gct gga ccc cag ctc agc aac ggc cac cgg ccc aac aca	1516			
His Leu Ser Ala Gly Pro Gln Leu Ser Asn Gly His Arg Pro Asn Thr				
285	290	295		
cac gac ttc ccc ctg ggg cgg cag ctc ccc acc agg act acc cct aca	1564			
His Asp Phe Pro Leu Gly Arg Gln Leu Pro Thr Arg Thr Thr Pro Thr				
300	305	310		
ctg agt ccc gag gaa ctg ctg aac agc agg gac tgt cac cct ggc ctg	1612			
Leu Ser Pro Glu Glu Leu Leu Asn Ser Arg Asp Cys His Pro Gly Leu				
315	320	325		
cct ctt ccc cca gga ttc cat ccc cat ccg ggg gcc aac tac cct cct	1660			

Pro Leu Pro Pro Gly Phe His Pro His Pro Gly Ala Asn Tyr Pro Pro
 330 335 340 345
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 Phe Leu Pro Asp Gln Met Gln Ser Gln Val Pro Ser Leu His Tyr Gln
 350 355 360
 gag ctc atg cca ccg ggt tcc tgc ctg cca gag gag ccc aag cca aag 1756
 Glu Leu Met Pro Pro Gly Ser Cys Leu Pro Glu Glu Pro Lys Pro Lys
 365 370 375
 agg gga aga agg tcg tgg ccc cgg aaa aga aca gcc acc cac act tgt 1804
 Arg Gly Arg Arg Ser Trp Pro Arg Lys Arg Thr Ala Thr His Thr Cys
 380 385 390
 gac tat gca ggc tgt ggc aaa acc tat acc aag agt tct cat ctc aag 1852
 Asp Tyr Ala Gly Cys Gly Lys Thr Tyr Thr Lys Ser Ser His Leu Lys
 395 400 405
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 Ala His Leu Arg Thr His Thr Gly Glu Lys Pro Tyr His Cys Asp Trp
 410 415 420 425
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 Asp Gly Cys Gly Trp Lys Phe Ala Arg Ser Asp Glu Leu Thr Arg His
 430 435 440
 tac cgc aaa cac aca ggg cac cgg ccc ttt cag tgc cag aag tgt gac 1996
 Tyr Arg Lys His Thr Gly His Arg Pro Phe Gln Cys Gln Lys Cys Asp
 445 450 455
 agg gcc ttt tcc agg tcg gac cac ctt gcc tta cac atg aag agg cac 2044
 Arg Ala Phe Ser Arg Ser Asp His Leu Ala Leu His Met Lys Arg His
 460 465 470
 ttt taa atcccacgta gtggatgtga cccacactgc caggagagag agttcagtat 2100
 Phe
 475

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tacaatcatg gtcaagttcc cagcaagtc gcttgtgaat ggataatcag gagaaaggaa 2220
gagtccaaga gacaaaacag aaatactaaa aacaaacaaa caaaaaaaca aacaaaaaaa 2280
ccaagaaaaa aaaatcacag aacagatggg gtctgatact ggatggatct tctatcattc 2340
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<210> 875

<211> 474

<212> PRT

<213> Mus musculus

<400> 875

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Asn Arg Trp Arg Glu Glu Leu Ser His Met Lys Arg Leu Pro Pro Leu

35 40 45

Pro Gly Arg Pro Tyr Asp Leu Ala Ala Thr Val Ala Thr Asp Leu Glu

50 55 60

2156/2644

290 295 300
 Gln Leu Pro Thr Arg Thr Thr Pro Thr Leu Ser Pro Glu Glu Leu Leu
 305 310 315 320
 Asn Ser Arg Asp Cys His Pro Gly Leu Pro Leu Pro Pro Gly Phe His
 325 330 335
 Pro His Pro Gly Ala Asn Tyr Pro Pro Phe Leu Pro Asp Gln Met Gln
 340 345 350
 Ser Gln Val Pro Ser Leu His Tyr Gln Glu Leu Met Pro Pro Gly Ser
 355 360 365
 Cys Leu Pro Glu Glu Pro Lys Pro Lys Arg Gly Arg Arg Ser Trp Pro
 370 375 380
 Arg Lys Arg Thr Ala Thr His Thr Cys Asp Tyr Ala Gly Cys Gly Lys
 385 390 395 400
 Thr Tyr Thr Lys Ser Ser His Leu Lys Ala His Leu Arg Thr His Thr
 405 410 415
 Gly Glu Lys Pro Tyr His Cys Asp Trp Asp Gly Cys Gly Trp Lys Phe
 420 425 430
 Ala Arg Ser Asp Glu Leu Thr Arg His Tyr Arg Lys His Thr Gly His
 435 440 445
 Arg Pro Phe Gln Cys Gln Lys Cys Asp Arg Ala Phe Ser Arg Ser Asp
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 His Leu Ala Leu His Met Lys Arg His Phe
 465 470

<210> 876

<211> 558

<212> DNA

<213> Mus musculus

<400> 876

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<210> 877

<211> 2048

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (178).. (1767)

<400> 877

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 ccacctttcg tggaaatctg agccggctgt acagctttcc tccttgttcc tgcagcc 177
 atg tcc acg aac gag aat gct aac tta cca gct gcc cga ctt aac agg 225
 Met Ser Thr Asn Glu Asn Ala Asn Leu Pro Ala Ala Arg Leu Asn Arg
 1 5 10 15
 ttc aag aac aag ggg aag gac agc aca gaa atg cgt cgc cgc cga ata 273

Phe Lys Asn Lys Gly Lys Asp Ser Thr Glu Met Arg Arg Arg Arg Ile
 20 25 30
 gaa gtt aat gtg gaa ctc agg aaa gct aaa aaa gat gag cag atg ctg 321
 Glu Val Asn Val Glu Leu Arg Lys Ala Lys Lys Asp Glu Gln Met Leu
 35 40 45
 aaa aga aga aac gtc agc tcc ttt cct gat gat gct act tct ccg cta 369
 Lys Arg Arg Asn Val Ser Ser Phe Pro Asp Asp Ala Thr Ser Pro Leu
 50 55 60
 cag gaa aac cgg aac aac cag ggt act gta aat tgg tct gtt gag gac 417
 Gln Glu Asn Arg Asn Asn Gln Gly Thr Val Asn Trp Ser Val Glu Asp
 65 70 75 80
 att gtt aaa ggc ata aac agt aac aat ttg gaa agc cag ctc caa gct 465
 Ile Val Lys Gly Ile Asn Ser Asn Asn Leu Glu Ser Gln Leu Gln Ala
 85 90 95
 act caa gct gct cgg aaa ttg ctt tct aga gag aaa cag cct cct ata 513
 Thr Gln Ala Ala Arg Lys Leu Leu Ser Arg Glu Lys Gln Pro Pro Ile
 100 105 110
 gac aac atc atc cgg gct ggt ttg atc cca aaa ttt gtg tcc ttc ttg 561
 Asp Asn Ile Ile Arg Ala Gly Leu Ile Pro Lys Phe Val Ser Phe Leu
 115 120 125
 ggc aaa act gat tgt agt cct att cag ttt gag tct gct tgg gca ctc 609
 Gly Lys Thr Asp Cys Ser Pro Ile Gln Phe Glu Ser Ala Trp Ala Leu
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 acc aac att gct tct gga aca tct gaa cag acc aaa gct gtg gtg gat 657
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 145 150 155 160
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 Gly Gly Ala Ile Pro Ala Phe Ile Ser Leu Leu Ala Ser Pro His Ala
 165 170 175

cac atc agc gag caa gct gtt tgg gct ctt gga aac att gca ggt gat 753
 His Ile Ser Glu Gln Ala Val Trp Ala Leu Gly Asn Ile Ala Gly Asp
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 Gly Ser Ala Phe Arg Asp Leu Val Ile Lys His Gly Ala Ile Asp Pro
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 210 215 220
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 Tyr Leu Arg Asn Leu Thr Trp Thr Leu Ser Asn Leu Cys Arg Asn Lys
 225 230 235 240
 aac cct gca cct ccc tta gac gcc gtt gag cag att ctt cct acg tta 945
 Asn Pro Ala Pro Pro Leu Asp Ala Val Glu Gln Ile Leu Pro Thr Leu
 245 250 255
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 Val Arg Leu Leu His His Asn Asp Pro Glu Val Leu Ala Asp Ser Cys
 260 265 270
 tgg gcc att tcc tac ctg act gat ggt cca aat gag cgc att gag atg 1041
 Trp Ala Ile Ser Tyr Leu Thr Asp Gly Pro Asn Glu Arg Ile Glu Met
 275 280 285
 gtt gtg aag aaa gga gtt gtc ccc caa ctt gtg aag ctt cta gga gct 1089
 Val Val Lys Lys Gly Val Val Pro Gln Leu Val Lys Leu Leu Gly Ala
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 Thr Glu Leu Pro Ile Val Thr Pro Ala Leu Arg Ala Ile Gly Asn Ile
 305 310 315 320
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 Val Thr Gly Thr Asp Glu Gln Thr Gln Lys Val Ile Asp Ala Gly Ala

325	330	335	
ctt gca gtc ttt ccc agc ctg cta aca aac ccc aaa act aat att cag			1233
Leu Ala Val Phe Pro Ser Leu Leu Thr Asn Pro Lys Thr Asn Ile Gln			
340	345	350	
aag gag gcc aca tgg aca atg tcg aac att aca gct gga cgc cag gac			1281
Lys Glu Ala Thr Trp Thr Met Ser Asn Ile Thr Ala Gly Arg Gln Asp			
355	360	365	
cag ata cag caa gtt gtg aat cac ggc cta gtc ccc ttt ctt gtt ggt			1329
Gln Ile Gln Gln Val Val Asn His Gly Leu Val Pro Phe Leu Val Gly			
370	375	380	
gtc ctc tct aag gcg gac ttt aag aca cag aag gag gcc gcg tgg gct			1377
Val Leu Ser Lys Ala Asp Phe Lys Thr Gln Lys Glu Ala Ala Trp Ala			
385	390	395	400
ata acc aac tat acc agc ggt ggg act gtt gag cag att gtg tat ctc			1425
Ile Thr Asn Tyr Thr Ser Gly Gly Thr Val Glu Gln Ile Val Tyr Leu			
405	410	415	
gtt cac tgt ggg ata ata gaa cct ttg atg aac ctc ctg agt gca aaa			1473
Val His Cys Gly Ile Ile Glu Pro Leu Met Asn Leu Leu Ser Ala Lys			
420	425	430	
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Asp Thr Lys Ile Ile Gln Val Ile Leu Asp Ala Ile Ser Asn Ile Phe			
435	440	445	
cag gct gca gag aaa cta ggt gag aca gaa aag ctc agt ata atg att			1569
Gln Ala Ala Glu Lys Leu Gly Glu Thr Glu Lys Leu Ser Ile Met Ile			
450	455	460	
gaa gag tgt gga ggc ttg gat aaa att gaa gca cta cag agg cat gaa			1617
Glu Glu Cys Gly Gly Leu Asp Lys Ile Glu Ala Leu Gln Arg His Glu			
465	470	475	480
aac gag tct gta tac aag gcc tca ttg aac tta att gag aag tac ttc			1665

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 gaa ggc ttc gcc ttc caa gtt cag gat gga gct cct ggg acc ttt aac 1761
 Glu Gly Phe Ala Phe Gln Val Gln Asp Gly Ala Pro Gly Thr Phe Asn
 515 520 525
 ttc taa tgtccagcta aggcacaaag ttgttagcta tgtgctgtgc tattctgtgt 1817
 Phe
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<210> 878

<211> 529

<212> PRT

<213> Mus musculus

<400> 878

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 Lys Arg Arg Asn Val Ser Ser Phe Pro Asp Asp Ala Thr Ser Pro Leu

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Gln Glu Asn Arg Asn Asn Gln Gly Thr Val Asn Trp Ser Val Glu Asp		
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Ile Val Lys Gly Ile Asn Ser Asn Asn Leu Glu Ser Gln Leu Gln Ala		
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Thr Gln Ala Ala Arg Lys Leu Leu Ser Arg Glu Lys Gln Pro Pro Ile		
100	105	110
Asp Asn Ile Ile Arg Ala Gly Leu Ile Pro Lys Phe Val Ser Phe Leu		
115	120	125
Gly Lys Thr Asp Cys Ser Pro Ile Gln Phe Glu Ser Ala Trp Ala Leu		
130	135	140
Thr Asn Ile Ala Ser Gly Thr Ser Glu Gln Thr Lys Ala Val Val Asp		
145	150	155
Gly Gly Ala Ile Pro Ala Phe Ile Ser Leu Leu Ala Ser Pro His Ala		
165	170	175
His Ile Ser Glu Gln Ala Val Trp Ala Leu Gly Asn Ile Ala Gly Asp		
180	185	190
Gly Ser Ala Phe Arg Asp Leu Val Ile Lys His Gly Ala Ile Asp Pro		
195	200	205
Leu Leu Ala Leu Leu Ala Val Pro Asp Leu Ser Thr Leu Ala Cys Gly		
210	215	220
Tyr Leu Arg Asn Leu Thr Trp Thr Leu Ser Asn Leu Cys Arg Asn Lys		
225	230	235
Asn Pro Ala Pro Pro Leu Asp Ala Val Glu Gln Ile Leu Pro Thr Leu		
245	250	255
Val Arg Leu Leu His His Asn Asp Pro Glu Val Leu Ala Asp Ser Cys		
260	265	270
Trp Ala Ile Ser Tyr Leu Thr Asp Gly Pro Asn Glu Arg Ile Glu Met		
275	280	285

Val Val Lys Lys Gly Val Val Pro Gln Leu Val Lys Leu Leu Gly Ala
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 Thr Glu Leu Pro Ile Val Thr Pro Ala Leu Arg Ala Ile Gly Asn Ile
 305 310 315 320
 Val Thr Gly Thr Asp Glu Gln Thr Gln Lys Val Ile Asp Ala Gly Ala
 325 330 335
 Leu Ala Val Phe Pro Ser Leu Leu Thr Asn Pro Lys Thr Asn Ile Gln
 340 345 350
 Lys Glu Ala Thr Trp Thr Met Ser Asn Ile Thr Ala Gly Arg Gln Asp
 355 360 365
 Gln Ile Gln Gln Val Val Asn His Gly Leu Val Pro Phe Leu Val Gly
 370 375 380
 Val Leu Ser Lys Ala Asp Phe Lys Thr Gln Lys Glu Ala Ala Trp Ala
 385 390 395 400
 Ile Thr Asn Tyr Thr Ser Gly Gly Thr Val Glu Gln Ile Val Tyr Leu
 405 410 415
 Val His Cys Gly Ile Ile Glu Pro Leu Met Asn Leu Leu Ser Ala Lys
 420 425 430
 Asp Thr Lys Ile Ile Gln Val Ile Leu Asp Ala Ile Ser Asn Ile Phe
 435 440 445
 Gln Ala Ala Glu Lys Leu Gly Glu Thr Glu Lys Leu Ser Ile Met Ile
 450 455 460
 Glu Glu Cys Gly Gly Leu Asp Lys Ile Glu Ala Leu Gln Arg His Glu
 465 470 475 480
 Asn Glu Ser Val Tyr Lys Ala Ser Leu Asn Leu Ile Glu Lys Tyr Phe
 485 490 495
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515

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Phe

<210> 879

<211> 2760

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (381).. (1598)

<400> 879

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Met Val Thr Glu Val Asn Pro Asn Val Val Val

1

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10

atc tcg gtg ctg gcc atc ctc agc aca ctt tta att gga ctg ctc tta 461
 Ile Ser Val Leu Ala Ile Leu Ser Thr Leu Leu Ile Gly Leu Leu Leu

15

20

25

gtg acc ctt gtc att ctc cga aag aag cac ctg cag atg gct agg gaa 509
 Val Thr Leu Val Ile Leu Arg Lys Lys His Leu Gln Met Ala Arg Glu

30

35

40

tgt gga gct ggc acg ttt gtc aac ttt gca tcc tta gaa agg gaa ggg 557

Cys Gly Ala Gly Thr Phe Val Asn Phe Ala Ser Leu Glu Arg Glu Gly
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 aaa ctc ccc tac agt tgg cgt agg agt gtg ttt gct ctc tta acc ctg 605
 Lys Leu Pro Tyr Ser Trp Arg Arg Ser Val Phe Ala Leu Leu Thr Leu
 60 65 70 75
 ctg cct tca tgt ctt tgg act gac tat ctt ttg gca ttt tat att aac 653
 Leu Pro Ser Cys Leu Trp Thr Asp Tyr Leu Leu Ala Phe Tyr Ile Asn
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 Pro Trp Ser Lys Asn Gly Leu Lys Lys Arg Lys Leu Thr Asn Pro Val
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 cag ctg gat gac ttc gat tct tac atc aag gat atg gcc aag gac tgc 749
 Gln Leu Asp Asp Phe Asp Ser Tyr Ile Lys Asp Met Ala Lys Asp Ser
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 gac tat aaa ttc tct ctt cag ttt gag gag ttg aag ttg att gga ctg 797
 Asp Tyr Lys Phe Ser Leu Gln Phe Glu Glu Leu Lys Leu Ile Gly Leu
 125 130 135
 gat att ccg cac ttt gct gca gat cta ccg ctg aac cga tgt aaa aac 845
 Asp Ile Pro His Phe Ala Ala Asp Leu Pro Leu Asn Arg Cys Lys Asn
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 cgc tac aca aac atc ctg ccg tat gac ttt agc cgg gtg agg cta gtc 893
 Arg Tyr Thr Asn Ile Leu Pro Tyr Asp Phe Ser Arg Val Arg Leu Val
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 Ser Met Asn Glu Glu Glu Gly Ala Asp Tyr Ile Asn Ala Asn Tyr Ile
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 190 195 200

cca gaa acc aga aat gac ttc tgg aag atg gtc cta caa cag aag tcc 1037
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205 210 215

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His Ile Ile Val Met Leu Thr Gln Cys Asn Glu Lys Arg Arg Val Lys
220 225 230 235

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Cys Asp His Tyr Trp Pro Phe Thr Glu Glu Pro Ile Ala Tyr Gly Asp
240 245 250

atc acc gtg gag atg gtc tct gag gaa gag gag gag gac tgg gcc agt 1181
Ile Thr Val Glu Met Val Ser Glu Glu Glu Glu Glu Asp Trp Ala Ser
255 260 265

aga cac ttc cgg atc aac tat gcg gac gaa gcg cag gac gtg atg cat 1229
Arg His Phe Arg Ile Asn Tyr Ala Asp Glu Ala Gln Asp Val Met His
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Phe Asn Tyr Thr Gly Trp Pro Asp His Gly Val Pro Pro Ala Asn Ala
285 290 295

gcc gag agc atc ctg cag ttt gtg ttc aca gtg cga cag caa gcc gcc 1325
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aag agc aaa ggg ccc atg atc atc cac tgc agt gcg ggt gtg gga cgg 1373
Lys Ser Lys Gly Pro Met Ile Ile His Cys Ser Ala Gly Val Gly Arg
320 325 330

aca gga acc ttc att gcc ctg gac agg ctc ctg caa cac att cga gat 1421
Thr Gly Thr Phe Ile Ala Leu Asp Arg Leu Leu Gln His Ile Arg Asp
335 340 345

cat gaa ttt gtg gac atc tta ggg ctg gta tca gag atg cgc tca tac 1469
His Glu Phe Val Asp Ile Leu Gly Leu Val Ser Glu Met Arg Ser Tyr

350	355	360	
cga atg tca atg gta cag aca gag gag cag tac att ttt atc cat cag			1517
Arg Met Ser Met Val Gln Thr Glu Glu Gln Tyr Ile Phe Ile His Gln			
365	370	375	
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Cys Val Gln Leu Met Trp Leu Arg Lys Lys Gln Gln Phe Cys Ile Ser			
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Asp Val Ile Tyr Glu Asn Val Ser Lys Ser			
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2760

<210> 880

<211> 405

<212> PRT

<213> Mus musculus

<400> 880

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Leu Arg Lys Lys His Leu Gln Met Ala Arg Glu Cys Gly Ala Gly Thr

35 40 45

Phe Val Asn Phe Ala Ser Leu Glu Arg Glu Gly Lys Leu Pro Tyr Ser

50 55 60

Trp Arg Arg Ser Val Phe Ala Leu Leu Thr Leu Leu Pro Ser Cys Leu

65 70 75 80

Trp Thr Asp Tyr Leu Leu Ala Phe Tyr Ile Asn Pro Trp Ser Lys Asn

85 90 95

Gly Leu Lys Lys Arg Lys Leu Thr Asn Pro Val Gln Leu Asp Asp Phe

100 105 110

Asp Ser Tyr Ile Lys Asp Met Ala Lys Asp Ser Asp Tyr Lys Phe Ser

115 120 125

Leu Gln Phe Glu Glu Leu Lys Leu Ile Gly Leu Asp Ile Pro His Phe

130 135 140

Ala Ala Asp Leu Pro Leu Asn Arg Cys Lys Asn Arg Tyr Thr Asn Ile

145 150 155 160

Leu Pro Tyr Asp Phe Ser Arg Val Arg Leu Val Ser Met Asn Glu Glu

165	170	175
Glu Gly Ala Asp Tyr Ile Asn Ala Asn Tyr Ile Pro Gly Tyr Asn Ser		
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Pro Gln Glu Tyr Ile Ala Thr Gln Gly Pro Leu Pro Glu Thr Arg Asn		
195	200	205
Asp Phe Trp Lys Met Val Leu Gln Gln Lys Ser His Ile Ile Val Met		
210	215	220
Leu Thr Gln Cys Asn Glu Lys Arg Arg Val Lys Cys Asp His Tyr Trp		
225	230	235
Pro Phe Thr Glu Glu Pro Ile Ala Tyr Gly Asp Ile Thr Val Glu Met		240
245	250	255
Val Ser Glu Glu Glu Glu Glu Asp Trp Ala Ser Arg His Phe Arg Ile		
260	265	270
Asn Tyr Ala Asp Glu Ala Gln Asp Val Met His Phe Asn Tyr Thr Gly		
275	280	285
Trp Pro Asp His Gly Val Pro Pro Ala Asn Ala Ala Glu Ser Ile Leu		
290	295	300
Gln Phe Val Phe Thr Val Arg Gln Gln Ala Ala Lys Ser Lys Gly Pro		
305	310	315
Met Ile Ile His Cys Ser Ala Gly Val Gly Arg Thr Gly Thr Phe Ile		320
325	330	335
Ala Leu Asp Arg Leu Leu Gln His Ile Arg Asp His Glu Phe Val Asp		
340	345	350
Ile Leu Gly Leu Val Ser Glu Met Arg Ser Tyr Arg Met Ser Met Val		
355	360	365
Gln Thr Glu Glu Gln Tyr Ile Phe Ile His Gln Cys Val Gln Leu Met		
370	375	380
Trp Leu Arg Lys Lys Gln Gln Phe Cys Ile Ser Asp Val Ile Tyr Glu		
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		400

Asn Val Ser Lys Ser

405

<210> 881

<211> 493

<212> DNA

<213> Mus musculus

<400> 881

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493

<210> 882

<211> 2492

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (146).. (2275)

<400> 882

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 tgtggtaaaa tggagctctg gcaag atg gaa agg tcc ccg ttt ctg ttg gcg 172
 Met Glu Arg Ser Pro Phe Leu Leu Ala
 1 5
 tgc att ctt ctg ccc ctc gta aga gga cac agc ctt ttc acc tgt gag 220
 Cys Ile Leu Leu Pro Leu Val Arg Gly His Ser Leu Phe Thr Cys Glu
 10 15 20 25
 cca atc acc gtt ccc aga tgt atg aaa atg act tac aac atg acg ttc 268
 Pro Ile Thr Val Pro Arg Cys Met Lys Met Thr Tyr Asn Met Thr Phe
 30 35 40
 ttc cct aac ctg atg ggt cat tat gac cag ggg atc gct gct gtg gaa 316
 Phe Pro Asn Leu Met Gly His Tyr Asp Gln Gly Ile Ala Ala Val Glu
 45 50 55
 atg ggg cac ttt ctg cat ctt gca aat cta gaa tgt tca cca aac att 364
 Met Gly His Phe Leu His Leu Ala Asn Leu Glu Cys Ser Pro Asn Ile
 60 65 70
 gaa atg ttc ctt tgc caa gct ttt ata cca acc tgc aca gag caa att 412
 Glu Met Phe Leu Cys Gln Ala Phe Ile Pro Thr Cys Thr Glu Gln Ile
 75 80 85
 cat gta gtt cta ccc tgt cgg aaa ttg tgt gag aaa ata gtt tct gat 460
 His Val Val Leu Pro Cys Arg Lys Leu Cys Glu Lys Ile Val Ser Asp
 90 95 100 105
 tgc aaa aaa cta atg gac act ttt ggc atc cga tgg cct gaa gaa ctt 508
 Cys Lys Lys Leu Met Asp Thr Phe Gly Ile Arg Trp Pro Glu Glu Leu
 110 115 120
 gaa tgt aac aga ttg cca cac tgt gat gac act gtt cct gta act tct 556
 Glu Cys Asn Arg Leu Pro His Cys Asp Asp Thr Val Pro Val Thr Ser
 125 130 135

cat cca cac aca gag ctt tct ggg cca cag aag aaa tca gat caa gtc 604
His Pro His Thr Glu Leu Ser Gly Pro Gln Lys Lys Ser Asp Gln Val
140 145 150
cca aga gac att gga ttt tgg tgt cca aag cac ctt agg act tcc ggg 652
Pro Arg Asp Ile Gly Phe Trp Cys Pro Lys His Leu Arg Thr Ser Gly
155 160 165
gac caa ggc tat agg ttt ctg gga att gaa cag tgt gcc cct ccg tgc 700
Asp Gln Gly Tyr Arg Phe Leu Gly Ile Glu Gln Cys Ala Pro Pro Cys
170 175 180 185
ccc aat atg tat ttt aaa agt gat gaa cta gac ttt gcc aaa agt ttc 748
Pro Asn Met Tyr Phe Lys Ser Asp Glu Leu Asp Phe Ala Lys Ser Phe
190 195 200
ata gga ata gtt tca ata ttt tgt ctt tgt gca act ctg ttc acg ttc 796
Ile Gly Ile Val Ser Ile Phe Cys Leu Cys Ala Thr Leu Phe Thr Phe
205 210 215
ctt aca ttt tta att gac gtt aga cga ttc aga tac cca gag aga cca 844
Leu Thr Phe Leu Ile Asp Val Arg Arg Phe Arg Tyr Pro Glu Arg Pro
220 225 230
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Ile Ile Tyr Tyr Ser Val Cys Tyr Ser Ile Val Ser Leu Met Tyr Phe
235 240 245
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Val Gly Phe Leu Leu Gly Asn Ser Thr Ala Cys Asn Lys Ala Asp Glu
250 255 260 265
aag ctg gag ctc ggg gac acc gtt gtc cta ggg tca aag aat aag gct 988
Lys Leu Glu Leu Gly Asp Thr Val Val Leu Gly Ser Lys Asn Lys Ala
270 275 280
tgc agt gtg gta ttt atg ttt ctg tat ttt ttt aca atg gct ggc acc 1036
Cys Ser Val Val Phe Met Phe Leu Tyr Phe Phe Thr Met Ala Gly Thr

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Val Trp Trp Val Ile Leu Thr Ile Thr Trp Phe Leu Ala Ala Gly Arg			
300	305	310	
aaa tgg agt tgc gaa gct att gaa caa aaa gca gtg tgg ttc cat gcc	1132		
Lys Trp Ser Cys Glu Ala Ile Glu Gln Lys Ala Val Trp Phe His Ala			
315	320	325	
gtt gcc tgg ggg gcg ccc ggg ttc ctg acc gtc atg ctg ctc gct atg	1180		
Val Ala Trp Gly Ala Pro Gly Phe Leu Thr Val Met Leu Leu Ala Met			
330	335	340	345
aat aag gtt gaa gga gac aac att agc ggc gtt tgc ttc gtt ggc ctg	1228		
Asn Lys Val Glu Gly Asp Asn Ile Ser Gly Val Cys Phe Val Gly Leu			
350	355	360	
tat gac ctg gac gcc tct cgc tac ttc gtc ctt ctg cct ctg tgc ctc	1276		
Tyr Asp Leu Asp Ala Ser Arg Tyr Phe Val Leu Leu Pro Leu Cys Leu			
365	370	375	
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Cys Val Phe Val Gly Leu Ser Leu Leu Leu Ala Gly Ile Ile Ser Leu			
380	385	390	
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Asn His Val Arg Gln Val Ile Gln His Asp Gly Arg Asn Gln Glu Lys			
395	400	405	
cta aag aaa ttc atg att cgc atc gga gtc ttc agt ggc ctg tat ctt	1420		
Leu Lys Lys Phe Met Ile Arg Ile Gly Val Phe Ser Gly Leu Tyr Leu			
410	415	420	425
gtg ccc tta gig aca ctt ctc ggt tgc tat gtc tat gag cta gtg aac	1468		
Val Pro Leu Val Thr Leu Leu Gly Cys Tyr Val Tyr Glu Leu Val Asn			
430	435	440	
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Arg Ile Thr Trp Glu Met Thr Trp Phe Ser Asp His Cys His Gln Tyr
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 cgc atc ccg tgc cct tac cag gca aat cca aaa gct cga cca gaa ttg 1564
 Arg Ile Pro Cys Pro Tyr Gln Ala Asn Pro Lys Ala Arg Pro Glu Leu
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 475 480 485
 gcg gtc ttc tgg gtt gga agc aaa aag acg tgc aca gaa tgg gcc ggg 1660
 Ala Val Phe Trp Val Gly Ser Lys Lys Thr Cys Thr Glu Trp Ala Gly
 490 495 500 505
 ttc ttt aag cga aac cgc aag cga gac ccc atc agt gag agc cgc cga 1708
 Phe Phe Lys Arg Asn Arg Lys Arg Asp Pro Ile Ser Glu Ser Arg Arg
 510 515 520
 gtg ctg caa gag tcc tgt gag ttc ttc ctg aag cac aac tct aaa gtg 1756
 Val Leu Gln Glu Ser Cys Glu Phe Phe Leu Lys His Asn Ser Lys Val
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 aag cac aag aag aag cat ggc gca cca ggg cct cat agg ctg aag gtc 1804
 Lys His Lys Lys Lys His Gly Ala Pro Gly Pro His Arg Leu Lys Val
 540 545 550
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 Thr Ser Ala Met Ala Ile Ala Asp His Asp Tyr Leu Gly Gln Glu Thr
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 Ser Thr Glu Val His Thr Ser Pro Glu Ala Ser Val Lys Glu Gly Arg
 590 595 600

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 Ala Asp Arg Ala Asn Thr Pro Ser Ala Lys Asp Arg Asp Cys Gly Glu
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<210> 883

<211> 709

<212> PRT

<213> Mus musculus

<400> 883

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          35             40             45
Tyr Asp Gln Gly Ile Ala Ala Val Glu Met Gly His Phe Leu His Leu
          50             55             60
Ala Asn Leu Glu Cys Ser Pro Asn Ile Glu Met Phe Leu Cys Gln Ala
          65             70             75             80
Phe Ile Pro Thr Cys Thr Glu Gln Ile His Val Val Leu Pro Cys Arg
          85             90             95
Lys Leu Cys Glu Lys Ile Val Ser Asp Cys Lys Lys Leu Met Asp Thr
          100            105            110
Phe Gly Ile Arg Trp Pro Glu Glu Leu Glu Cys Asn Arg Leu Pro His
          115            120            125
Cys Asp Asp Thr Val Pro Val Thr Ser His Pro His Thr Glu Leu Ser
          130            135            140
Gly Pro Gln Lys Lys Ser Asp Gln Val Pro Arg Asp Ile Gly Phe Trp
          145            150            155            160
Cys Pro Lys His Leu Arg Thr Ser Gly Asp Gln Gly Tyr Arg Phe Leu
          165            170            175
Gly Ile Glu Gln Cys Ala Pro Pro Cys Pro Asn Met Tyr Phe Lys Ser
          180            185            190
Asp Glu Leu Asp Phe Ala Lys Ser Phe Ile Gly Ile Val Ser Ile Phe
          195            200            205

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Cys Leu Cys Ala Thr Leu Phe Thr Phe Leu Thr Phe Leu Ile Asp Val
 210 215 220
 Arg Arg Phe Arg Tyr Pro Glu Arg Pro Ile Ile Tyr Tyr Ser Val Cys
 225 230 235 240
 Tyr Ser Ile Val Ser Leu Met Tyr Phe Val Gly Phe Leu Leu Gly Asn
 245 250 255
 Ser Thr Ala Cys Asn Lys Ala Asp Glu Lys Leu Glu Leu Gly Asp Thr
 260 265 270
 Val Val Leu Gly Ser Lys Asn Lys Ala Cys Ser Val Val Phe Met Phe
 275 280 285
 Leu Tyr Phe Phe Thr Met Ala Gly Thr Val Trp Trp Val Ile Leu Thr
 290 295 300
 Ile Thr Trp Phe Leu Ala Ala Gly Arg Lys Trp Ser Cys Glu Ala Ile
 305 310 315 320
 Glu Gln Lys Ala Val Trp Phe His Ala Val Ala Trp Gly Ala Pro Gly
 325 330 335
 Phe Leu Thr Val Met Leu Leu Ala Met Asn Lys Val Glu Gly Asp Asn
 340 345 350
 Ile Ser Gly Val Cys Phe Val Gly Leu Tyr Asp Leu Asp Ala Ser Arg
 355 360 365
 Tyr Phe Val Leu Leu Pro Leu Cys Leu Cys Val Phe Val Gly Leu Ser
 370 375 380
 Leu Leu Leu Ala Gly Ile Ile Ser Leu Asn His Val Arg Gln Val Ile
 385 390 395 400
 Gln His Asp Gly Arg Asn Gln Glu Lys Leu Lys Lys Phe Met Ile Arg
 405 410 415
 Ile Gly Val Phe Ser Gly Leu Tyr Leu Val Pro Leu Val Thr Leu Leu
 420 425 430
 Gly Cys Tyr Val Tyr Glu Leu Val Asn Arg Ile Thr Trp Glu Met Thr

435	440	445
Trp Phe Ser Asp His Cys His Gln Tyr Arg Ile Pro Cys Pro Tyr Gln		
450	455	460
Ala Asn Pro Lys Ala Arg Pro Glu Leu Ala Leu Phe Met Ile Lys Tyr		
465	470	475
Leu Met Thr Leu Ile Val Gly Ile Ser Ala Val Phe Trp Val Gly Ser		
485	490	495
Lys Lys Thr Cys Thr Glu Trp Ala Gly Phe Phe Lys Arg Asn Arg Lys		
500	505	510
Arg Asp Pro Ile Ser Glu Ser Arg Arg Val Leu Gln Glu Ser Cys Glu		
515	520	525
Phe Phe Leu Lys His Asn Ser Lys Val Lys His Lys Lys Lys His Gly		
530	535	540
Ala Pro Gly Pro His Arg Leu Lys Val Ile Ser Lys Ser Met Gly Thr		
545	550	555
Ser Thr Gly Ala Thr Thr Asn His Gly Thr Ser Ala Met Ala Ile Ala		
565	570	575
Asp His Asp Tyr Leu Gly Gln Glu Thr Ser Thr Glu Val His Thr Ser		
580	585	590
Pro Glu Ala Ser Val Lys Glu Gly Arg Ala Asp Arg Ala Asn Thr Pro		
595	600	605
Ser Ala Lys Asp Arg Asp Cys Gly Glu Ser Ala Gly Pro Ser Ser Lys		
610	615	620
Leu Ser Gly Asn Arg Asn Gly Arg Glu Ser Arg Ala Gly Gly Leu Lys		
625	630	635
Glu Arg Ser Asn Gly Ser Glu Gly Ala Pro Ser Glu Gly Arg Val Ser		
645	650	655
Pro Lys Ser Ser Val Pro Glu Thr Gly Leu Ile Asp Cys Ser Thr Ser		
660	665	670

Gln Ala Ala Ser Ser Pro Glu Pro Thr Ser Leu Lys Gly Ser Thr Ser
 675 680 685
 Leu Pro Val His Ser Ala Ser Arg Ala Arg Lys Glu Gln Gly Ala Gly
 690 695 700
 Ser His Ser Asp Ala
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<210> 884

<211> 1402

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (192).. (950)

<400> 884

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 ctccccggcc acgggacgcg gtcgcacccg gcgaggggtgc agcccccgga gcggcggcgg 180
 cggcgggaaa a atg aag aac gaa att gcg gct gtt gtc ttc ttt ttc aca 230
 Met Lys Asn Glu Ile Ala Ala Val Val Phe Phe Phe Thr
 1 5 10
 agg cta gtt cga aag cat gac aag ttg aaa aaa gaa gca gtt gag agg 278
 Arg Leu Val Arg Lys His Asp Lys Leu Lys Lys Glu Ala Val Glu Arg
 15 20 25
 ttt gct gag aaa tta act caa ata ctt caa gag aaa tat aaa aat cac 326
 Phe Ala Glu Lys Leu Thr Gln Ile Leu Gln Glu Lys Tyr Lys Asn His
 30 35 40 45

2181/2644

190	195	200	205	
cct cct cct gtt cca ttt gct tat cca aat cca gga agg aag aat aaa				854
Pro Pro Pro Val Pro Phe Ala Tyr Pro Asn Pro Gly Arg Lys Asn Lys				
	210	215	220	
cca ttc cgc cca att cca gtg aca tgg gta cct cct cct gga atg cat				902
Pro Phe Arg Pro Ile Pro Val Thr Trp Val Pro Pro Pro Gly Met His				
	225	230	235	
tgt gac cga aat cac tgg att aat cct cac atg tta gca cct cac tag				950
Cys Asp Arg Asn His Trp Ile Asn Pro His Met Leu Ala Pro His				
	240	245	250	
ctcctttcat tgtgttgatg tcatgttgct agaaaggaag acataccttc ctatatacta				1010
agagttcata ctgttagtga agttagatgg gcaaaacat cagacttatt tttatagaaa				1070
agctattgag aataatcttt cttaaagtat atatatatat atatatgcac tttagatata				1130
ttgatatagt ttgagaaact ttattaaagt tagtcaagtg cctgagtttt taatattgga				1190
cttgagtatt tatatattgt gcattgactc tgttgatac aaaaacactg taggagcggg				1250
cgaatgtgtc tagcaccttt gagcatttac tttatggaga gtatataagt tatttataca				1310
gaaggacatc tattttatgt cattatttag aagaattgtg tgaaatcatg tagttgcaaa				1370
taaaaagtag ttgaggcat gacaaaaaaa aa				1402

<210> 885

<211> 252

<212> PRT

<213> Mus musculus

<400> 885

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Arg Lys His Asp Lys Leu Lys Lys Glu Ala Val Glu Arg Phe Ala Glu

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25

30

Lys Leu Thr Gln Ile Leu Gln Glu Lys Tyr Lys Asn His Trp Tyr Pro
 35 40 45
 Glu Lys Pro Ser Lys Gly Gln Ala Tyr Arg Cys Ile Arg Val Asn Lys
 50 55 60
 Phe Gln Arg Val Asp Pro Asp Val Leu Lys Ala Cys Glu Asn Ser Cys
 65 70 75 80
 Ile Leu Tyr Ser Asp Leu Gly Leu Pro Lys Glu Leu Thr Leu Trp Val
 85 90 95
 Asp Pro Cys Glu Val Cys Cys Arg Tyr Gly Glu Lys Asn Asn Ala Phe
 100 105 110
 Ile Val Ala Ser Phe Glu Asn Glu Asp Glu Asn Lys Asp Glu Ile Ser
 115 120 125
 Lys Lys Val Ser Arg Ala Leu Asp Lys Val Thr Ser Asp Tyr His Ser
 130 135 140
 Gly Ser Ser Ser Ser Asp Glu Asp Thr Ser Lys Glu Val Asp Val Lys
 145 150 155 160
 Pro Ser Ser Val Ala Ala Thr Pro Ser Pro Val Tyr Gln Ile Ser Glu
 165 170 175
 Leu Ile Phe Pro Pro Leu Pro Met Trp His Pro Leu Pro Arg Lys Lys
 180 185 190
 Pro Gly Met Tyr Arg Gly Ser Gly His Gln Thr His Tyr Pro Pro Pro
 195 200 205
 Val Pro Phe Ala Tyr Pro Asn Pro Gly Arg Lys Asn Lys Pro Phe Arg
 210 215 220
 Pro Ile Pro Val Thr Trp Val Pro Pro Pro Gly Met His Cys Asp Arg
 225 230 235 240
 Asn His Trp Ile Asn Pro His Met Leu Ala Pro His
 245 250

<210> 886

<211> 2965

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (595).. (2832)

<400> 886

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 gttggaaccg tagtgctctg caccggagtg tggatgagtt gaagttgctt tccccgggct 180
 cgttctccac gtccgccgag aggaatccga gcggagaggc agtcacttcg tcttgccatt 240
 gattgggtat cgggagcttt ttcttccctg ctctctttct ttctctccgt cttgttgcatt 300
 gcaagaaaat tacagtcgcg tggtcgcccg ccttgggtgc gagatcttct gcccggcctc 360
 tctcccggtc attgtgcagc ccaaagatga aagaccgaaa gggagaagtt aaacaaatcg 420
 cccacatgcg ctggatcagt ccacggcttg gggaaaggca tccagagaag gtgggagcgg 480
 agagtttgaa gtctttacag gcgggaagat ggcggactgg agctgaaagt gttgattggg 540
 aaacttgggt gattcttgtg tttatttaca atcctcttga cccaggcagg acac atg 597

Met

1

cag gcc aaa aaa cgc tat ttc atc ctg ctc tca gct ggc tct tct ctc 645
 Gln Ala Lys Lys Arg Tyr Phe Ile Leu Leu Ser Ala Gly Ser Ser Leu

5

10

15

gcc ctt ttg ttt tat ttt gga ggc gtg cag ttt agg gca tgc agg agc 693
 Ala Leu Leu Phe Tyr Phe Gly Gly Val Gln Phe Arg Ala Ser Arg Ser

20

25

30

cac agc cgg aga gaa gag cac agt ggt cgg aat ggc ttg cac cag ccc 741

His Ser Arg Arg Glu Glu His Ser Gly Arg Asn Gly Leu His Gln Pro
 35 40 45
 agt ccg gat cat ttc tgg ccc cgc ttc ccg gag cct ctg cgc ccc ttc 789
 Ser Pro Asp His Phe Trp Pro Arg Phe Pro Glu Pro Leu Arg Pro Phe
 50 55 60 65
 ttt cct tgg gat caa ttg gaa aac gag gat tcc agc gtg cac att tcc 837
 Phe Pro Trp Asp Gln Leu Glu Asn Glu Asp Ser Ser Val His Ile Ser
 70 75 80
 ccc cgg cag aag cga gac gcc aac tcg agc atc tac aaa ggc aag aag 885
 Pro Arg Gln Lys Arg Asp Ala Asn Ser Ser Ile Tyr Lys Gly Lys Lys
 85 90 95
 tgc cgc atg gag tcc tgc ttc gat ttc acc ctt tgc aag aaa aac ggc 933
 Cys Arg Met Glu Ser Cys Phe Asp Phe Thr Leu Cys Lys Lys Asn Gly
 100 105 110
 ttc aaa gtc tac gtg tac ccg cag cag aaa ggg gag aaa atc gcc gaa 981
 Phe Lys Val Tyr Val Tyr Pro Gln Gln Lys Gly Glu Lys Ile Ala Glu
 115 120 125
 agt tac caa aac att cta gcg gcc atc gag ggc tcc agg ttc tac acc 1029
 Ser Tyr Gln Asn Ile Leu Ala Ala Ile Glu Gly Ser Arg Phe Tyr Thr
 130 135 140 145
 tcg gac ccc agc cag gcg tgc ctc ttt gtc ttg agt ctg gat act tta 1077
 Ser Asp Pro Ser Gln Ala Cys Leu Phe Val Leu Ser Leu Asp Thr Leu
 150 155 160
 gac aga gac cag tta tca cct cag tat gtg cac aat ttg aga tcc aaa 1125
 Asp Arg Asp Gln Leu Ser Pro Gln Tyr Val His Asn Leu Arg Ser Lys
 165 170 175
 gtg cag agt ctc cac ttg tgg aac aat ggt agg aat cat tta att ttt 1173
 Val Gln Ser Leu His Leu Trp Asn Asn Gly Arg Asn His Leu Ile Phe
 180 185 190

aat tta tat tct ggc act tgg cct gac tac act gag gac gtg ggg ttt	1221
Asn Leu Tyr Ser Gly Thr Trp Pro Asp Tyr Thr Glu Asp Val Gly Phe	
195	200
gac atc ggc cag gcg atg ctg gcc aaa gcc acg atc agt act gaa aac	1269
Asp Ile Gly Gln Ala Met Leu Ala Lys Ala Thr Ile Ser Thr Glu Asn	
210	215
ttc cga cca aac ttt gat gtt tct att ccc ctc ttt tct aag gat cat	1317
Phe Arg Pro Asn Phe Asp Val Ser Ile Pro Leu Phe Ser Lys Asp His	
230	235
ccc agg aca gga ggg gag agg ggg ttt ttg aaa ttt aac acc atc cct	1365
Pro Arg Thr Gly Gly Glu Arg Gly Phe Leu Lys Phe Asn Thr Ile Pro	
245	250
cct ctc agg aag tac atg ctg gta ttc aag ggg aag cgg tac ctg aca	1413
Pro Leu Arg Lys Tyr Met Leu Val Phe Lys Gly Lys Arg Tyr Leu Thr	
260	265
ggg ata ggg tca gac acc agg aat gcc tta tat cac gtc cat aac ggg	1461
Gly Ile Gly Ser Asp Thr Arg Asn Ala Leu Tyr His Val His Asn Gly	
275	280
gag gac gtc ttg ctc ctc acc acc tgc aag cat ggc aaa gac tgg caa	1509
Glu Asp Val Leu Leu Leu Thr Thr Cys Lys His Gly Lys Asp Trp Gln	
290	295
aag cac aag gat tct cgc tgt gac aga gac aac acc gag tat gag aaa	1557
Lys His Lys Asp Ser Arg Cys Asp Arg Asp Asn Thr Glu Tyr Glu Lys	
310	315
tat gat tat cgg gaa atg ctg cac aat gcc act ttc tgt ctg gtt cct	1605
Tyr Asp Tyr Arg Glu Met Leu His Asn Ala Thr Phe Cys Leu Val Pro	
325	330
cgt ggt cgc agg ctt ggg tcc ttc aga ttc ctg gag gct ttg cag gct	1653
Arg Gly Arg Arg Leu Gly Ser Phe Arg Phe Leu Glu Ala Leu Gln Ala	
	335

340	345	350	
gcc tgt gtc cct gta atg ctc agc aac gga tgg gag ttg cca ttc tcc			1701
Ala Cys Val Pro Val Met Leu Ser Asn Gly Trp Glu Leu Pro Phe Ser			
355	360	365	
gaa gtg att aat tgg aac caa gct gcc gtc ata ggc gat gag aga ttg			1749
Glu Val Ile Asn Trp Asn Gln Ala Ala Val Ile Gly Asp Glu Arg Leu			
370	375	380	385
cta tta cag att cct tct aca atc agg tct att cat cag gat aaa atc			1797
Leu Leu Gln Ile Pro Ser Thr Ile Arg Ser Ile His Gln Asp Lys Ile			
390	395	400	
cta gca ctt aga cag cag aca cag ttc ttg tgg gag gct tat ttt tct			1845
Leu Ala Leu Arg Gln Gln Thr Gln Phe Leu Trp Glu Ala Tyr Phe Ser			
405	410	415	
tca gtt gag aag att gta tta act aca cta gag att att cag gac aga			1893
Ser Val Glu Lys Ile Val Leu Thr Thr Leu Glu Ile Ile Gln Asp Arg			
420	425	430	
ata ttc aag cac ata tca cgt aac agt tta ata tgg aac aaa cat cct			1941
Ile Phe Lys His Ile Ser Arg Asn Ser Leu Ile Trp Asn Lys His Pro			
435	440	445	
gga gga ttg ttc gtc cta ccg cag tat tca tct tac ctg gga gat ttc			1989
Gly Gly Leu Phe Val Leu Pro Gln Tyr Ser Ser Tyr Leu Gly Asp Phe			
450	455	460	465
cct tac tac tat gct aat tta ggt tta aag ccc ccc tcc aaa ttc act			2037
Pro Tyr Tyr Tyr Ala Asn Leu Gly Leu Lys Pro Pro Ser Lys Phe Thr			
470	475	480	
gca gtc atc cat cct gtg act ccc ctg gtc tct cag tcc cag cca gtg			2085
Ala Val Ile His Pro Val Thr Pro Leu Val Ser Gln Ser Gln Pro Val			
485	490	495	
ttg aag ctt ctt gtg gct gca gcc aaa tcc cag tac tgt gcg cag atc			2133

Leu Lys Leu Leu Val Ala Ala Ala Lys Ser Gln Tyr Cys Ala Gln Ile
 500 505 510
 ata gtt ctg tgg aat tgt gac aag cct cta cca gcc aaa cat cgc tgg 2181
 Ile Val Leu Trp Asn Cys Asp Lys Pro Leu Pro Ala Lys His Arg Trp
 515 520 525
 cct gcc act gcc gtg cct gtc atc gtc att gaa gga gaa agc aag gtt 2229
 Pro Ala Thr Ala Val Pro Val Ile Val Ile Glu Gly Glu Ser Lys Val
 530 535 540 545
 atg agc cgg ttt ctg ccc tat gac aac atc atc act gat gct gtg ctc 2277
 Met Ser Arg Phe Leu Pro Tyr Asp Asn Ile Ile Thr Asp Ala Val Leu
 550 555 560
 agc ctg gat gag gac act gtg ctt tca act acg gaa gtg gat ttt gcc 2325
 Ser Leu Asp Glu Asp Thr Val Leu Ser Thr Thr Glu Val Asp Phe Ala
 565 570 575
 ttc acc gta tgg cag agc ttc cca gag agg att gtg gga tat cct gct 2373
 Phe Thr Val Trp Gln Ser Phe Pro Glu Arg Ile Val Gly Tyr Pro Ala
 580 585 590
 cgc agt cat ttc tgg gat aac tca aag gag cgg tgg gga tat aca tcc 2421
 Arg Ser His Phe Trp Asp Asn Ser Lys Glu Arg Trp Gly Tyr Thr Ser
 595 600 605
 aag tgg acg aat gac tac tcc atg gtg ttg aca gga gct gct atc tac 2469
 Lys Trp Thr Asn Asp Tyr Ser Met Val Leu Thr Gly Ala Ala Ile Tyr
 610 615 620 625
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 His Lys Tyr Tyr His Tyr Leu Tyr Ser His Tyr Leu Pro Ala Ser Leu
 630 635 640
 aag aac atg gta gac caa ctg gcc aac tgt gag gac att ctc atg aat 2565
 Lys Asn Met Val Asp Gln Leu Ala Asn Cys Glu Asp Ile Leu Met Asn
 645 650 655

ttc ctg gtg tct gct gtg aca aaa ttg cct cca atc aaa gtg acc cag 2613
 Phe Leu Val Ser Ala Val Thr Lys Leu Pro Pro Ile Lys Val Thr Gln
 660 665 670
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 Lys Lys Gln Tyr Lys Glu Thr Met Met Gly Gln Thr Ser Arg Ala Ser
 675 680 685
 cgc tgg gcc gac cct gac cac ttt gcc cag cga cag agc tgc atg aat 2709
 Arg Trp Ala Asp Pro Asp His Phe Ala Gln Arg Gln Ser Cys Met Asn
 690 695 700 705
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 Thr Phe Ala Ser Trp Phe Gly Tyr Met Pro Leu Ile His Ser Gln Met
 710 715 720
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 725 730 735
 aaa tac aga gac att gaa cga ctt tga ggaagccgac cgagtggggg 2852
 Lys Tyr Arg Asp Ile Glu Arg Leu
 740 745
 aggggaagca agacgggagt ccagctgctt ctctcctcct tcccaatgca gatccctcac 2912
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<210> 887

<211> 745

<212> PRT

<213> Mus musculus

<400> 887

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 Ser His Ser Arg Arg Glu Glu His Ser Gly Arg Asn Gly Leu His Gln
 35 40 45
 Pro Ser Pro Asp His Phe Trp Pro Arg Phe Pro Glu Pro Leu Arg Pro
 50 55 60
 Phe Phe Pro Trp Asp Gln Leu Glu Asn Glu Asp Ser Ser Val His Ile
 65 70 75 80
 Ser Pro Arg Gln Lys Arg Asp Ala Asn Ser Ser Ile Tyr Lys Gly Lys
 85 90 95
 Lys Cys Arg Met Glu Ser Cys Phe Asp Phe Thr Leu Cys Lys Lys Asn
 100 105 110
 Gly Phe Lys Val Tyr Val Tyr Pro Gln Gln Lys Gly Glu Lys Ile Ala
 115 120 125
 Glu Ser Tyr Gln Asn Ile Leu Ala Ala Ile Glu Gly Ser Arg Phe Tyr
 130 135 140
 Thr Ser Asp Pro Ser Gln Ala Cys Leu Phe Val Leu Ser Leu Asp Thr
 145 150 155 160
 Leu Asp Arg Asp Gln Leu Ser Pro Gln Tyr Val His Asn Leu Arg Ser
 165 170 175
 Lys Val Gln Ser Leu His Leu Trp Asn Asn Gly Arg Asn His Leu Ile
 180 185 190
 Phe Asn Leu Tyr Ser Gly Thr Trp Pro Asp Tyr Thr Glu Asp Val Gly
 195 200 205
 Phe Asp Ile Gly Gln Ala Met Leu Ala Lys Ala Thr Ile Ser Thr Glu
 210 215 220
 Asn Phe Arg Pro Asn Phe Asp Val Ser Ile Pro Leu Phe Ser Lys Asp
 225 230 235 240
 His Pro Arg Thr Gly Gly Glu Arg Gly Phe Leu Lys Phe Asn Thr Ile

	245		250		255										
Pro	Pro	Leu	Arg	Lys	Tyr	Met	Leu	Val	Phe	Lys	Gly	Lys	Arg	Tyr	Leu
	260		265		270										
Thr	Gly	Ile	Gly	Ser	Asp	Thr	Arg	Asn	Ala	Leu	Tyr	His	Val	His	Asn
	275		280		285										
Gly	Glu	Asp	Val	Leu	Leu	Leu	Thr	Thr	Cys	Lys	His	Gly	Lys	Asp	Trp
	290		295		300										
Gln	Lys	His	Lys	Asp	Ser	Arg	Cys	Asp	Arg	Asp	Asn	Thr	Glu	Tyr	Glu
305			310		315										320
Lys	Tyr	Asp	Tyr	Arg	Glu	Met	Leu	His	Asn	Ala	Thr	Phe	Cys	Leu	Val
	325		330		335										
Pro	Arg	Gly	Arg	Arg	Leu	Gly	Ser	Phe	Arg	Phe	Leu	Glu	Ala	Leu	Gln
	340		345		350										
Ala	Ala	Cys	Val	Pro	Val	Met	Leu	Ser	Asn	Gly	Trp	Glu	Leu	Pro	Phe
	355		360		365										
Ser	Glu	Val	Ile	Asn	Trp	Asn	Gln	Ala	Ala	Val	Ile	Gly	Asp	Glu	Arg
	370		375		380										
Leu	Leu	Leu	Gln	Ile	Pro	Ser	Thr	Ile	Arg	Ser	Ile	His	Gln	Asp	Lys
385			390		395										400
Ile	Leu	Ala	Leu	Arg	Gln	Gln	Thr	Gln	Phe	Leu	Trp	Glu	Ala	Tyr	Phe
	405		410		415										
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	420		425		430										
Arg	Ile	Phe	Lys	His	Ile	Ser	Arg	Asn	Ser	Leu	Ile	Trp	Asn	Lys	His
	435		440		445										
Pro	Gly	Gly	Leu	Phe	Val	Leu	Pro	Gln	Tyr	Ser	Ser	Tyr	Leu	Gly	Asp
	450		455		460										
Phe	Pro	Tyr	Tyr	Tyr	Ala	Asn	Leu	Gly	Leu	Lys	Pro	Pro	Ser	Lys	Phe
465			470		475										480

Thr Ala Val Ile His Pro Val Thr Pro Leu Val Ser Gln Ser Gln Pro
 485 490 495
 Val Leu Lys Leu Leu Val Ala Ala Ala Lys Ser Gln Tyr Cys Ala Gln
 500 505 510
 Ile Ile Val Leu Trp Asn Cys Asp Lys Pro Leu Pro Ala Lys His Arg
 515 520 525
 Trp Pro Ala Thr Ala Val Pro Val Ile Val Ile Glu Gly Glu Ser Lys
 530 535 540
 Val Met Ser Arg Phe Leu Pro Tyr Asp Asn Ile Ile Thr Asp Ala Val
 545 550 555 560
 Leu Ser Leu Asp Glu Asp Thr Val Leu Ser Thr Thr Glu Val Asp Phe
 565 570 575
 Ala Phe Thr Val Trp Gln Ser Phe Pro Glu Arg Ile Val Gly Tyr Pro
 580 585 590
 Ala Arg Ser His Phe Trp Asp Asn Ser Lys Glu Arg Trp Gly Tyr Thr
 595 600 605
 Ser Lys Trp Thr Asn Asp Tyr Ser Met Val Leu Thr Gly Ala Ala Ile
 610 615 620
 Tyr His Lys Tyr Tyr His Tyr Leu Tyr Ser His Tyr Leu Pro Ala Ser
 625 630 635 640
 Leu Lys Asn Met Val Asp Gln Leu Ala Asn Cys Glu Asp Ile Leu Met
 645 650 655
 Asn Phe Leu Val Ser Ala Val Thr Lys Leu Pro Pro Ile Lys Val Thr
 660 665 670
 Gln Lys Lys Gln Tyr Lys Glu Thr Met Met Gly Gln Thr Ser Arg Ala
 675 680 685
 Ser Arg Trp Ala Asp Pro Asp His Phe Ala Gln Arg Gln Ser Cys Met
 690 695 700
 Asn Thr Phe Ala Ser Trp Phe Gly Tyr Met Pro Leu Ile His Ser Gln

705	710	715	720
Met Arg Leu Asp Pro Val Leu Phe Lys Asp Gln Val Ser Ile Leu Arg			
	725	730	735
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	740	745	

<210> 888

<211> 1933

<212> DNA

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<220>

<221> CDS

<222> (140).. (1243)

<400> 888

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ggggtcgctg gggctggcc atg gtg atg gag gtg ggc atc ctg gac gcc ggg 172
      Met Val Met Glu Val Gly Ile Leu Asp Ala Gly
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ggg ctg cgc gcg ctg ctg cga gag ggc gcc gcg cag tgc ctg ttg ttg 220
Gly Leu Arg Ala Leu Leu Arg Glu Gly Ala Ala Gln Cys Leu Leu Leu
              15              20              25
gat tgt cgc tcc ttc ttc gct ttc aac gcc ggc cac atc gcg ggc tca 268
Asp Cys Arg Ser Phe Phe Ala Phe Asn Ala Gly His Ile Ala Gly Ser
              30              35              40
gtg aac gtg cgc ttc agc acc atc gtg cgg cgc cgc gcc aag ggc gcc 316
Val Asn Val Arg Phe Ser Thr Ile Val Arg Arg Arg Ala Lys Gly Ala

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Met Gly Leu Glu His Ile Val Pro Asn Ala Glu Leu Arg Gly Arg Leu			
60	65	70	75
ctg gcc gga gcc tac cac gcc gtg gtg ctg ctg gac gag cgc agc gcc	412		
Leu Ala Gly Ala Tyr His Ala Val Val Leu Leu Asp Glu Arg Ser Ala			
80	85	90	
tcc ctg gac ggc gcc aag cgc gac ggc acc ctg gcc ctg gcc gcg ggc	460		
Ser Leu Asp Gly Ala Lys Arg Asp Gly Thr Leu Ala Leu Ala Ala Gly			
95	100	105	
gcg ctc tgc cga gag gcg cgc tcc act caa gtc ttc ttt ctc caa gga	508		
Ala Leu Cys Arg Glu Ala Arg Ser Thr Gln Val Phe Phe Leu Gln Gly			
110	115	120	
gga tat gaa gcg ttt tcg gct tcc tgc cct gag ctg tgc agc aaa cag	556		
Gly Tyr Glu Ala Phe Ser Ala Ser Cys Pro Glu Leu Cys Ser Lys Gln			
125	130	135	
tcc acc ccc acg ggg ctc agc ctc ccc ctg agt act agt gtg cct gac	604		
Ser Thr Pro Thr Gly Leu Ser Leu Pro Leu Ser Thr Ser Val Pro Asp			
140	145	150	155
agt gca gaa tcc gga tgc agc tcc tgt agt acc cct ctc tac gat cag	652		
Ser Ala Glu Ser Gly Cys Ser Ser Cys Ser Thr Pro Leu Tyr Asp Gln			
160	165	170	
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Gly Gly Pro Val Glu Ile Leu Ser Phe Leu Tyr Leu Gly Ser Ala Tyr			
175	180	185	
cac gct tct cgg aag gat atg ctt gac gcc ttg ggc atc acc gcc ttg	748		
His Ala Ser Arg Lys Asp Met Leu Asp Ala Leu Gly Ile Thr Ala Leu			
190	195	200	
atc aac gtc tca gcc aat tgt cct aac cac ttt gag ggt cac tac cag	796		

Ile Asn Val Ser Ala Asn Cys Pro Asn His Phe Glu Gly His Tyr Gln	
205	210
215	
tac aag agc atc cct gtg gag gac aac cac aag gca gac atc agc tcc	844
Tyr Lys Ser Ile Pro Val Glu Asp Asn His Lys Ala Asp Ile Ser Ser	
220	225
230	235
tgg ttc aac gag gct att gac ttc ata gac tcc atc aag gat gct gga	892
Trp Phe Asn Glu Ala Ile Asp Phe Ile Asp Ser Ile Lys Asp Ala Gly	
240	245
250	
ggg aga gtg ttt gtt cat tgc cag gcc ggc atc tcc cgg tca gcc acc	940
Gly Arg Val Phe Val His Cys Gln Ala Gly Ile Ser Arg Ser Ala Thr	
255	260
265	
atc tgc ctt gct tac ctc atg agg act aac cgg gta aag ctg gac gag	988
Ile Cys Leu Ala Tyr Leu Met Arg Thr Asn Arg Val Lys Leu Asp Glu	
270	275
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gcc ttt gag ttt gtg aag cag agg cgg agt atc atc tcc ccg aac ttc	1036
Ala Phe Glu Phe Val Lys Gln Arg Arg Ser Ile Ile Ser Pro Asn Phe	
285	290
295	
agc ttc atg ggc cag ctg ctg cag ttt gag tcc caa gtg cta gcc cct	1084
Ser Phe Met Gly Gln Leu Leu Gln Phe Glu Ser Gln Val Leu Ala Pro	
300	305
310	315
cac tgc tct gct gaa gct ggg agc cct gcc atg gct gtc ctt gac cgg	1132
His Cys Ser Ala Glu Ala Gly Ser Pro Ala Met Ala Val Leu Asp Arg	
320	325
330	
ggc acc tct act acc aca gtc ttc aac ttc cct gtt tcc atc ccc gtc	1180
Gly Thr Ser Thr Thr Thr Val Phe Asn Phe Pro Val Ser Ile Pro Val	
335	340
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cac ccc acg aac agt gcc ctg aac tac ctt aaa agc ccc atc acc acc	1228
His Pro Thr Asn Ser Ala Leu Asn Tyr Leu Lys Ser Pro Ile Thr Thr	
350	355
360	

tct cca agc tgc tga agggcaaggg gaggtgtgga gtttcacttg ccaccgggtc 1283

Ser Pro Ser Cys

365

gccactcctc ctgtgggagg agcaatgcaa taactctggg agaggctcat gggagctgggt 1343
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<210> 889

<211> 367

<212> PRT

<213> Mus musculus

<400> 889

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			20							25				30	
Phe	Ala	Phe	Asn	Ala	Gly	His	Ile	Ala	Gly	Ser	Val	Asn	Val	Arg	Phe
			35							40				45	
Ser	Thr	Ile	Val	Arg	Arg	Arg	Ala	Lys	Gly	Ala	Met	Gly	Leu	Glu	His
			50							55				60	

2197/2644

290	295	300	
Leu Leu Gln Phe Glu Ser Gln Val Leu Ala Pro His Cys Ser Ala Glu			
305	310	315	320
Ala Gly Ser Pro Ala Met Ala Val Leu Asp Arg Gly Thr Ser Thr Thr			
	325	330	335
Thr Val Phe Asn Phe Pro Val Ser Ile Pro Val His Pro Thr Asn Ser			
	340	345	350
Ala Leu Asn Tyr Leu Lys Ser Pro Ile Thr Thr Ser Pro Ser Cys			
	355	360	365

<210> 890

<211> 2089

<212> DNA

<213> Mus musculus

<400> 890

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 cgagagtiga gtgaagactg cctgtatctt aatgtgtgga caccataccc cagacctgct 420
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<210> 891

<211> 2728

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (49).. (1179)

<220>

<221> CDS

<222> (208).. (846)

<400> 891

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Met Gln Trp

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Ala Ser Val Leu Leu Leu Ala Gly Leu Cys Ser Leu Ser Gln Gly Gln

5

10

15

tat gat gaa gac tct cac tgg tgg atc caa tac ctc cga aac cag cag 153

Tyr Asp Glu Asp Ser His Trp Trp Ile Gln Tyr Leu Arg Asn Gln Gln

20

25

30

35

tcc acc tac tac gac ccc tat gac cct tac ccc tat gag ccc tct gag 201

Ser Thr Tyr Tyr Asp Pro Tyr Asp Pro Tyr Pro Tyr Glu Pro Ser Glu

40

45

50

cct tac ccc tat gga gtg gaa gaa ggc cca gcc tat gcc tat ggt gca 249

Pro Tyr Pro Tyr Gly Val Glu Glu Gly Pro Ala Tyr Ala Tyr Gly Ala

55

60

65

cca cct cca cca gag ccc cgt gat tgt ccc caa gaa tgc gac tgt ccc 297

Pro Pro Pro Pro Glu Pro Arg Asp Cys Pro Gln Glu Cys Asp Cys Pro

70

75

80

ccc aac ttc ccc aca gcc atg tac tgt gac aac cgc aac ctc aag tac 345

Pro Asn Phe Pro Thr Ala Met Tyr Cys Asp Asn Arg Asn Leu Lys Tyr

85

90

95

ctg cct ttt gtg ccc tcc cgc atg aag tac gtc tac ttc cag aac aac 393
 Leu Pro Phe Val Pro Ser Arg Met Lys Tyr Val Tyr Phe Gln Asn Asn
 100 105 110 115
 cag atc tct gcc atc cag gaa ggt gtc ttt gac aat gcc act ggg ctc 441
 Gln Ile Ser Ala Ile Gln Glu Gly Val Phe Asp Asn Ala Thr Gly Leu
 120 125 130
 ctc tgg gtc gct cta cat ggc aac cag att acc agt gac aag gta ggc 489
 Leu Trp Val Ala Leu His Gly Asn Gln Ile Thr Ser Asp Lys Val Gly
 135 140 145
 agg aaa gtc ttc tcc aag ctg agg cac ctg gag agg ctg tac ttg gac 537
 Arg Lys Val Phe Ser Lys Leu Arg His Leu Glu Arg Leu Tyr Leu Asp
 150 155 160
 cac aac aac ctg acc cgg atg ccc ggc cgg ctg ccc cga tcc ctg aga 585
 His Asn Asn Leu Thr Arg Met Pro Gly Pro Leu Pro Arg Ser Leu Arg
 165 170 175
 gag ctc cac ctg gac cac aac cag atc tca cgg gtc ccc aac aat gct 633
 Glu Leu His Leu Asp His Asn Gln Ile Ser Arg Val Pro Asn Asn Ala
 180 185 190 195
 ttg gag ggc ctg gag aac ctc acg gcc tta tat ctc cac cac aat gag 681
 Leu Glu Gly Leu Glu Asn Leu Thr Ala Leu Tyr Leu His His Asn Glu
 200 205 210
 atc cag gaa gtg ggg agt tcc atg aga ggc ctc cgg tcc ctg atc cta 729
 Ile Gln Glu Val Gly Ser Ser Met Arg Gly Leu Arg Ser Leu Ile Leu
 215 220 225
 cta gac ctg agt tat aac cac ctt cgg agg gta ccc gac ggt ctg ccc 777
 Leu Asp Leu Ser Tyr Asn His Leu Arg Arg Val Pro Asp Gly Leu Pro
 230 235 240
 tca gcc ctg gag cag ctg tac cta gaa cac aac aat gtc tac acc gtc 825
 Ser Ala Leu Glu Gln Leu Tyr Leu Glu His Asn Asn Val Tyr Thr Val

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Pro Asp Ser Tyr Phe Arg Gly Ser Pro Lys Leu Leu Tyr Val Arg Leu			
260	265	270	275
tct cac aac agt ctc act aac aac ggc ctt gct acc aac acc ttc aac			921
Ser His Asn Ser Leu Thr Asn Asn Gly Leu Ala Thr Asn Thr Phe Asn			
280	285	290	
tcc agc agc ctt ctt gag cta gac ttg tct tac aat cag ctg cag aag			969
Ser Ser Ser Leu Leu Glu Leu Asp Leu Ser Tyr Asn Gln Leu Gln Lys			
295	300	305	
atc cct cct gtc aac acc aac ctg gag aat ctt tac ctc cag ggc aac			1017
Ile Pro Pro Val Asn Thr Asn Leu Glu Asn Leu Tyr Leu Gln Gly Asn			
310	315	320	
agg atc aat gag ttc tcc atc agc agc ttc tgc acg gtg gtg gac gtc			1065
Arg Ile Asn Glu Phe Ser Ile Ser Ser Phe Cys Thr Val Val Asp Val			
325	330	335	
atg aac ttc tcc aag ctg cag gtg cta cgc ctg gat ggg aac gag atc			1113
Met Asn Phe Ser Lys Leu Gln Val Leu Arg Leu Asp Gly Asn Glu Ile			
340	345	350	355
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Lys Arg Ser Ala Met Pro Val Asp Ala Pro Leu Cys Leu Arg Leu Ala			
360	365	370	
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Asn Leu Ile Glu Ile			
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<211> 376

<212> PRT

<213> Mus musculus

<400> 892

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 Pro Ser Glu Pro Tyr Pro Tyr Gly Val Glu Glu Gly Pro Ala Tyr Ala
 50 55 60
 Tyr Gly Ala Pro Pro Pro Pro Glu Pro Arg Asp Cys Pro Gln Glu Cys
 65 70 75 80
 Asp Cys Pro Pro Asn Phe Pro Thr Ala Met Tyr Cys Asp Asn Arg Asn
 85 90 95
 Leu Lys Tyr Leu Pro Phe Val Pro Ser Arg Met Lys Tyr Val Tyr Phe
 100 105 110
 Gln Asn Asn Gln Ile Ser Ala Ile Gln Glu Gly Val Phe Asp Asn Ala
 115 120 125
 Thr Gly Leu Leu Trp Val Ala Leu His Gly Asn Gln Ile Thr Ser Asp
 130 135 140
 Lys Val Gly Arg Lys Val Phe Ser Lys Leu Arg His Leu Glu Arg Leu
 145 150 155 160
 Tyr Leu Asp His Asn Asn Leu Thr Arg Met Pro Gly Pro Leu Pro Arg
 165 170 175
 Ser Leu Arg Glu Leu His Leu Asp His Asn Gln Ile Ser Arg Val Pro
 180 185 190

Asn Asn Ala Leu Glu Gly Leu Glu Asn Leu Thr Ala Leu Tyr Leu His
 195 200 205
 His Asn Glu Ile Gln Glu Val Gly Ser Ser Met Arg Gly Leu Arg Ser
 210 215 220
 Leu Ile Leu Leu Asp Leu Ser Tyr Asn His Leu Arg Arg Val Pro Asp
 225 230 235 240
 Gly Leu Pro Ser Ala Leu Glu Gln Leu Tyr Leu Glu His Asn Asn Val
 245 250 255
 Tyr Thr Val Pro Asp Ser Tyr Phe Arg Gly Ser Pro Lys Leu Leu Tyr
 260 265 270
 Val Arg Leu Ser His Asn Ser Leu Thr Asn Asn Gly Leu Ala Thr Asn
 275 280 285
 Thr Phe Asn Ser Ser Ser Leu Leu Glu Leu Asp Leu Ser Tyr Asn Gln
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 Leu Gln Lys Ile Pro Pro Val Asn Thr Asn Leu Glu Asn Leu Tyr Leu
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 Gln Gly Asn Arg Ile Asn Glu Phe Ser Ile Ser Ser Phe Cys Thr Val
 325 330 335
 Val Asp Val Met Asn Phe Ser Lys Leu Gln Val Leu Arg Leu Asp Gly
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<210> 893

<211> 2821

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (21).. (1310)

<400> 893

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Lys Ile His Asn Arg Tyr Glu Gly Lys Asp Val Ser Lys His Lys Arg
              15              20              25
aat ctg gcc ata gca ggc ggt gtc acc ctg tct gta atc gtg tct ccg 149
Asn Leu Ala Ile Ala Gly Gly Val Thr Leu Ser Val Ile Val Ser Pro
              30              35              40
gtg gta gct gca gtg act gta ggc att ggt gtt ccc atc atg cta gct 197
Val Val Ala Ala Val Thr Val Gly Ile Gly Val Pro Ile Met Leu Ala
              45              50              55
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Tyr Val Tyr Gly Val Val Pro Ile Ser Leu Cys Arg Ser Gly Gly Cys
              60              65              70              75
ggt gtc tct gcg ggc aat ggg aaa gga gtg agg att gag ttt gat gat 293
Gly Val Ser Ala Gly Asn Gly Lys Gly Val Arg Ile Glu Phe Asp Asp
              80              85              90
gag aat gac ata aac gtc ggt ggg act aac gca gcc ata gat aca aca 341
Glu Asn Asp Ile Asn Val Gly Gly Thr Asn Ala Ala Ile Asp Thr Thr
              95              100              105
tca gta gca gaa gca agg cac aac cct agc ata gga gag gga agt gtc 389
Ser Val Ala Glu Ala Arg His Asn Pro Ser Ile Gly Glu Gly Ser Val

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Gly Gly Leu Thr Gly Ser Leu Ser Ala Ser Gly Ser His Met Asp Arg			
125	130	135	
ata ggc acc att aga gac aac ctg agt gag aca gcg agc acc atg gca	485		
Ile Gly Thr Ile Arg Asp Asn Leu Ser Glu Thr Ala Ser Thr Met Ala			
140	145	150	155
tta gct gga gct agt atc acg ggc agt ctg tcg gga agt gcc atg gta	533		
Leu Ala Gly Ala Ser Ile Thr Gly Ser Leu Ser Gly Ser Ala Met Val			
160	165	170	
aac tgt ttc aac agg ttg gaa gta caa gca gac gta cag aaa gaa cgg	581		
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175	180	185	
tgt agt ctc agt gga gag tct ggc aca gtg agc ttg gga aca gtt agt	629		
Cys Ser Leu Ser Gly Glu Ser Gly Thr Val Ser Leu Gly Thr Val Ser			
190	195	200	
gat aac gcc agc acc aaa gca atg gcg gga tcc att ctc aac tcc tac	677		
Asp Asn Ala Ser Thr Lys Ala Met Ala Gly Ser Ile Leu Asn Ser Tyr			
205	210	215	
atc cct ctg gac aga gaa ggg aac agc atg gaa gtg caa gtg gat att	725		
Ile Pro Leu Asp Arg Glu Gly Asn Ser Met Glu Val Gln Val Asp Ile			
220	225	230	235
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Asp Asp Ser Gly Ala Thr Arg Gly His Thr Gly Gly Ala Ser Ser Gly			
255	260	265	
ttg ccc gaa ggt aaa tcc agt gct acc aag tgg tcc aag gaa gca aca	869		

Leu Pro Glu Gly Lys Ser Ser Ala Thr Lys Trp Ser Lys Glu Ala Thr
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 Gly Gly Lys Lys Ser Lys Ser Gly Lys Leu Arg Lys Lys Gly Asn Met
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 aag atc aat gag acc aga gag gac atg gat gca cag ttg tta gag caa 965
 Lys Ile Asn Glu Thr Arg Glu Asp Met Asp Ala Gln Leu Leu Glu Gln
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 atg ccg tct gta gca gat tcc cac tcc agt cat ttt tct gaa ttt agc 1061
 Met Pro Ser Val Ala Asp Ser His Ser Ser His Phe Ser Glu Phe Ser
 335 340 345
 tgc tca gac tta gaa agc atg aga acg tcc tgt agt cac ggc tcc agt 1109
 Cys Ser Asp Leu Glu Ser Met Arg Thr Ser Cys Ser His Gly Ser Ser
 350 355 360
 gat tgc cac gcc cgc ttc aca gct gtg aac acc ctt cct gag gta gaa 1157
 Asp Cys His Ala Arg Phe Thr Ala Val Asn Thr Leu Pro Glu Val Glu
 365 370 375
 aac gac cga ctg gag aac tca cca cac cag tgc agc agc tct gct ttc 1205
 Asn Asp Arg Leu Glu Asn Ser Pro His Gln Cys Ser Ser Ser Ala Phe
 380 385 390 395
 caa agc tgc ttc ctg ttc aga tgt ccc aca gcc cag cca tgc tgc aga 1253
 Gln Ser Cys Phe Leu Phe Arg Cys Pro Thr Ala Gln Pro Cys Cys Arg
 400 405 410
 cga gca tgg cac cag cag aag tgg ggg gaa gcc tat ggt gga ttt gtg 1301
 Arg Ala Trp His Gln Gln Lys Trp Gly Glu Ala Tyr Gly Gly Phe Val
 415 420 425

ttt tgg tga tgcactgaga gagacaaata ataaccactc gcaccagaca 1350

Phe Trp

430

gcagacctga aagttgctgt ccagactgaa atttaggccc gtgaatgctg cagagtaaga 1410
 accactgaac aaccgtgttg ggagctgggt gaaccatgtg cgactgttaa gcttaagtta 1470
 ccagcaaaag ccaggtttca taatcgtaat gcaaatacat ttgtatgtc tagcaaagca 1530
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 tacaagatag taacataaga aaaaggcatg ttttgggttc ttgtcacaaa acactgcttg 1650
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 gtttttgcac aactctgaag tagaaatact tggtagctgt acatatctca agtgtggttg 2010
 ttgccatgtt agaagacggt aaaaggtaac taagggaactg acagtggcag aagacggtcc 2070
 cattaggatg gaagtattac agtcacctgt cactaaggca agttagtgc tttgattctt 2130
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<210> 894

<211> 429

<212> PRT

<213> *Mus musculus*

<400> 894

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 20 25 30
 Gly Gly Val Thr Leu Ser Val Ile Val Ser Pro Val Val Ala Ala Val
 35 40 45
 Thr Val Gly Ile Gly Val Pro Ile Met Leu Ala Tyr Val Tyr Gly Val
 50 55 60
 Val Pro Ile Ser Leu Cys Arg Ser Gly Gly Cys Gly Val Ser Ala Gly
 65 70 75 80
 Asn Gly Lys Gly Val Arg Ile Glu Phe Asp Asp Glu Asn Asp Ile Asn
 85 90 95
 Val Gly Gly Thr Asn Ala Ala Ile Asp Thr Thr Ser Val Ala Glu Ala
 100 105 110
 Arg His Asn Pro Ser Ile Gly Glu Gly Ser Val Gly Gly Leu Thr Gly
 115 120 125
 Ser Leu Ser Ala Ser Gly Ser His Met Asp Arg Ile Gly Thr Ile Arg
 130 135 140
 Asp Asn Leu Ser Glu Thr Ala Ser Thr Met Ala Leu Ala Gly Ala Ser
 145 150 155 160
 Ile Thr Gly Ser Leu Ser Gly Ser Ala Met Val Asn Cys Phe Asn Arg
 165 170 175
 Leu Glu Val Gln Ala Asp Val Gln Lys Glu Arg Cys Ser Leu Ser Gly

180	185	190
Glu Ser Gly Thr Val Ser Leu Gly Thr Val Ser Asp Asn Ala Ser Thr		
195	200	205
Lys Ala Met Ala Gly Ser Ile Leu Asn Ser Tyr Ile Pro Leu Asp Arg		
210	215	220
Glu Gly Asn Ser Met Glu Val Gln Val Asp Ile Glu Ser Lys Pro Phe		
225	230	235
Lys Phe Arg His Asn Ser Gly Ser Ser Ser Val Asp Asp Ser Gly Ala		
245	250	255
Thr Arg Gly His Thr Gly Gly Ala Ser Ser Gly Leu Pro Glu Gly Lys		
260	265	270
Ser Ser Ala Thr Lys Trp Ser Lys Glu Ala Thr Gly Gly Lys Lys Ser		
275	280	285
Lys Ser Gly Lys Leu Arg Lys Lys Gly Asn Met Lys Ile Asn Glu Thr		
290	295	300
Arg Glu Asp Met Asp Ala Gln Leu Leu Glu Gln Gln Ser Thr Asn Ser		
305	310	315
Ser Glu Phe Glu Ala Pro Ser Leu Ser Asp Ser Met Pro Ser Val Ala		
325	330	335
Asp Ser His Ser Ser His Phe Ser Glu Phe Ser Cys Ser Asp Leu Glu		
340	345	350
Ser Met Arg Thr Ser Cys Ser His Gly Ser Ser Asp Cys His Ala Arg		
355	360	365
Phe Thr Ala Val Asn Thr Leu Pro Glu Val Glu Asn Asp Arg Leu Glu		
370	375	380
Asn Ser Pro His Gln Cys Ser Ser Ser Ala Phe Gln Ser Cys Phe Leu		
385	390	395
Phe Arg Cys Pro Thr Ala Gln Pro Cys Cys Arg Arg Ala Trp His Gln		
405	410	415

Gln Lys Trp Gly Glu Ala Tyr Gly Gly Phe Val Phe Trp

420

425

<210> 895

<211> 2119

<212> DNA

<213> Mus musculus

<400> 895

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 ggaagaacag tgattattga acagagttgg ggaagtccca aagtaacaaa agatggggtc 180
 actgttgcaa agtcaattga tttaaaggat aaatacaaaa atatcggagc taagcttggt 240
 caggatgttg ccaataacac aatgaagag gctggggatg gcaccaccac tgccactggt 300
 ctggcacggt ctattgccaa ggagggtttt gagaagatca gcaaaggggc taatccagtg 360
 gaaatccgga gaggtgtgat gtggctgtg gatgctgtaa ttgctgaact taagaaacag 420
 tctaaacctg tgacaacccc tgaagaaatt gctcaggttg ctacaatttc tgcaaacgga 480
 gacaaagaca ttgggaacat catttctgat gcaatgaaga aggttggaag aaagggtgtc 540
 atcacagtga aggatggaaa aacctgaat gatgagctag aaattattga aggcattgaag 600
 ttgatagag gatattttt cccatatttt attaacacat caaaaggta aaaatgtgaa 660
 ttccaagatg cctatgtttt gttgagtga aagaaatttt ccagtgttca gtccattgtc 720
 cctgctcttg aaattgctaa tgctcatcgg aagccattgg tcataatcgc cgaagatgtt 780
 gacggagaag ctctaagcac gctgggtttt aacaggctaa aagttggctt tcaggttgta 840
 gcagtcaaag ctccagggtt tggggacaac aggaagaacc agcttaaaga tatggctatc 900
 gctactgggtg gtgcggtgtt tggagaagag ggtttgaatc taaatcttga agatgttcaa 960
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 aaaggaaaag gtgacaaagc tcacattgaa aaacgtattc aagaaatcac tgagcagcta 1080
 gacatcacia ctagtgaata tgaaaaagaa aagctgaacg agcgacttgc taaactttca 1140
 gatggagtag ctgtgttgaa ggttggagga acaagtgatg ttgaagtga tgagaagaaa 1200

gacagagtta ctgatgctct caatgctaca agagcagctg ttgaagaagg cattgttcta 1260
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 gaagaccaga aataggtat agaaattatt aaaagagcac ttaaaattcc tgcaatgacg 1380
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 attgatccaa caaaggttgt gagaactgcc ttactggatg ctgctggggt ggcctccttg 1560
 ctactacag ccgaagctgt agtgacagaa attcctaaag aagagaagga ccctggaatg 1620
 ggtgcaatgg gtggcatggg agggggtatg ggaggcggca tgttctaact cctagagtag 1680
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 cagttactgg tttcctttga cgatatataa tggtttactg ctgtcattgt ccatgcctac 1860
 agataattta ttttgtatct ttgaataaag aacatttgta cattcctgat gctggttgca 1920
 agagccatat accagtgicc tgctttcaac ttaaatcact gaggcattct tactcttctg 1980
 tgagtcatca ggactgtagc gctgtgtcaa caaaacatag agagttcaga agacagcctt 2040
 tctgtggaag ggtgggaatg attgtgtaca aagtagagaa gtatccaatt atgtgacaac 2100
 ctttgtgtaa taaaatttt 2119

<210> 896

<211> 349

<212> DNA

<213> Mus musculus

<400> 896

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 gtctcattaa gaaccagca gacacgcaga tctgaagctg ctgatgaacc acgccttcac 120
 caagcgctct gacggggagg aagtggactt cgccggctgc tgtgcagaac cctgcggtg 180
 aagcagccca gcacaccac gcggactgca gtgtgacagc agcgccacag tctgtgtcct 240
 tgtccctgtc ggcacagtgg ccgctgcctc tggggacagt gatgctgttt gttgtggcag 300
 gggacctatg cccatgcatt tgaaaaccaa acaaatgaa gaaagagaa 349

<210> 897

<211> 1284

<212> DNA

<213> *Mus musculus*

<220>

<221> CDS

<222> (181).. (957)

<400> 897

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ttccggccag ctgttaacac ctgtgtttcc ttttttcaga tcctacaggt gaacaagggtg 180
atg tcc atc ttg ttt tat gtg ata ttt ctt gct tat ctc cgt ggc atc 228
Met Ser Ile Leu Phe Tyr Val Ile Phe Leu Ala Tyr Leu Arg Gly Ile
      1              5              10              15
caa ggc aac agc atg gat caa agg agt ttg ccg gaa gac tct ctc aat 276
Gln Gly Asn Ser Met Asp Gln Arg Ser Leu Pro Glu Asp Ser Leu Asn
      20              25              30
tcc ctc atc atc aag ctg atc cag gcg gat atc ttg aaa aac aag ctt 324
Ser Leu Ile Ile Lys Leu Ile Gln Ala Asp Ile Leu Lys Asn Lys Leu
      35              40              45
tcc aaa cag atg gtg gat gtt aag gaa aat tac cag agc acc ctg ccc 372
Ser Lys Gln Met Val Asp Val Lys Glu Asn Tyr Gln Ser Thr Leu Pro
      50              55              60
aaa gca gag gca ccc agg gaa cca gag cag gga gag gcc acc agg tca 420
Lys Ala Glu Ala Pro Arg Glu Pro Glu Gln Gly Glu Ala Thr Arg Ser
      65              70              75              80

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gag ttc cag cca atg att gca acg gac aca gag cta cta cgg caa cag 468
 Glu Phe Gln Pro Met Ile Ala Thr Asp Thr Glu Leu Leu Arg Gln Gln
 85 90 95
 aga cgc tac aat tcg ccc cgg gtc ctg ctg agt gac agc acc cct ttg 516
 Arg Arg Tyr Asn Ser Pro Arg Val Leu Leu Ser Asp Ser Thr Pro Leu
 100 105 110
 gag ccc cct ccc tta tac cta atg gag gat tat gtg ggc aac ccg gtg 564
 Glu Pro Pro Pro Leu Tyr Leu Met Glu Asp Tyr Val Gly Asn Pro Val
 115 120 125
 gta gcc aat aga acc tca cca cgg agg aaa cgc tat gca gaa cat aag 612
 Val Ala Asn Arg Thr Ser Pro Arg Arg Lys Arg Tyr Ala Glu His Lys
 130 135 140
 agt cac cga gga gag tac tca gtg tgt gac agt gag agc ctg tgg gtg 660
 Ser His Arg Gly Glu Tyr Ser Val Cys Asp Ser Glu Ser Leu Trp Val
 145 150 155 160
 acc gac aag tcc tca gcc att gac att cgg gga cac cag gtc aca gtg 708
 Thr Asp Lys Ser Ser Ala Ile Asp Ile Arg Gly His Gln Val Thr Val
 165 170 175
 ctg ggg gag atc aaa acc ggt aac tct cct gtg aaa caa tat ttt tat 756
 Leu Gly Glu Ile Lys Thr Gly Asn Ser Pro Val Lys Gln Tyr Phe Tyr
 180 185 190
 gaa acg aga tgt aaa gaa gcc agg ccg gtc aaa aac ggt tgc agg ggg 804
 Glu Thr Arg Cys Lys Glu Ala Arg Pro Val Lys Asn Gly Cys Arg Gly
 195 200 205
 att gat gac aaa cac tgg aac tct cag tgc aaa act tcg caa acc tat 852
 Ile Asp Asp Lys His Trp Asn Ser Gln Cys Lys Thr Ser Gln Thr Tyr
 210 215 220
 gtc cga gca ctg act tca gaa aac aac aaa ctc gta ggc tgg cgc tgg 900
 Val Arg Ala Leu Thr Ser Glu Asn Asn Lys Leu Val Gly Trp Arg Trp

225 230 235 240
 ata cga ata gac act tcc tgt gtg tgt gcc ttg tgc aga aaa att gga 948
 Ile Arg Ile Asp Thr Ser Cys Val Cys Ala Leu Ser Arg Lys Ile Gly
 245 250 255
 aga aca tga attggcatct gtccccacat ataaattatt acttttaaatt 997
 Arg Thr
 atatgatatg catgtagcat ataaatgitt atattgtttt tatatattat aagttgacct 1057
 ttatttatta aacttcagca acccttacag tatataagct tttttctcaa taaaattcgt 1117
 gtgcttgccct cccctcaggc ctttcccatc tgtaaacctt gttttgtgat tgggcctcgc 1177
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<210> 898

<211> 258

<212> PRT

<213> Mus musculus

<400> 898

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 20 25 30
 Ser Leu Ile Ile Lys Leu Ile Gln Ala Asp Ile Leu Lys Asn Lys Leu
 35 40 45
 Ser Lys Gln Met Val Asp Val Lys Glu Asn Tyr Gln Ser Thr Leu Pro
 50 55 60
 Lys Ala Glu Ala Pro Arg Glu Pro Glu Gln Gly Glu Ala Thr Arg Ser
 65 70 75 80
 Glu Phe Gln Pro Met Ile Ala Thr Asp Thr Glu Leu Leu Arg Gln Gln

	85	90	95
Arg Arg Tyr Asn Ser Pro Arg Val Leu Leu Ser Asp Ser Thr Pro Leu			
100	105	110	
Glu Pro Pro Pro Leu Tyr Leu Met Glu Asp Tyr Val Gly Asn Pro Val			
115	120	125	
Val Ala Asn Arg Thr Ser Pro Arg Arg Lys Arg Tyr Ala Glu His Lys			
130	135	140	
Ser His Arg Gly Glu Tyr Ser Val Cys Asp Ser Glu Ser Leu Trp Val			
145	150	155	160
Thr Asp Lys Ser Ser Ala Ile Asp Ile Arg Gly His Gln Val Thr Val			
165	170	175	
Leu Gly Glu Ile Lys Thr Gly Asn Ser Pro Val Lys Gln Tyr Phe Tyr			
180	185	190	
Glu Thr Arg Cys Lys Glu Ala Arg Pro Val Lys Asn Gly Cys Arg Gly			
195	200	205	
Ile Asp Asp Lys His Trp Asn Ser Gln Cys Lys Thr Ser Gln Thr Tyr			
210	215	220	
Val Arg Ala Leu Thr Ser Glu Asn Asn Lys Leu Val Gly Trp Arg Trp			
225	230	235	240
Ile Arg Ile Asp Thr Ser Cys Val Cys Ala Leu Ser Arg Lys Ile Gly			
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Arg Thr

<210> 899

<211> 2325

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (286).. (2160)

<400> 899

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 cccacagcag cagagggagg tccagatgaa cccatcactg tggctcacat cgtgggtggag 180
 gccacctctc tagcagaaga catcagccac gctcctgacc ttgctggaag tgggcacatc 240
 aaagaggtcg ttgtggctgc tgaggcagag ccaggggatg gcgag atg gca gag gct 297

Met Ala Glu Ala

1

cca ggc agt cct aat cat cag gaa ctt ggg ctt ctt ggg gag ggc gag 345
 Pro Gly Ser Pro Asn His Gln Glu Leu Gly Leu Leu Gly Glu Gly Glu
 5 10 15 20
 cag gcc cat gtc aag ctg ctg gtg aac aag gaa ggc cgc tac gtg tgc 393
 Gln Ala His Val Lys Leu Leu Val Asn Lys Glu Gly Arg Tyr Val Cys
 25 30 35
 atg cta tgt cac aag acc ttc aaa acg ggc agc atc ctc aag gcc cac 441
 Met Leu Cys His Lys Thr Phe Lys Thr Gly Ser Ile Leu Lys Ala His
 40 45 50
 atg gta acg cac agc agc cgc aag gac cac gag tgc aag ctc tgt ggg 489
 Met Val Thr His Ser Ser Arg Lys Asp His Glu Cys Lys Leu Cys Gly
 55 60 65
 gcc tct ttt cgg acc aag ggc tct ctc atc cgg cac cac cga cgg cac 537
 Ala Ser Phe Arg Thr Lys Gly Ser Leu Ile Arg His His Arg Arg His
 70 75 80
 act gat gag cgc ccc tac aaa tgt gcc aag tgt gga aag agt ttc cga 585
 Thr Asp Glu Arg Pro Tyr Lys Cys Ala Lys Cys Gly Lys Ser Phe Arg
 85 90 95 100

gag tca ggc gca ctg act cgg cac ctc aaa tct ctc act cca tgc aca	633
Glu Ser Gly Ala Leu Thr Arg His Leu Lys Ser Leu Thr Pro Cys Thr	
105 110 115	
gaa aag atc cgc ttc agc ata agc aag gac aca gct gtg ggc aaa gag	681
Glu Lys Ile Arg Phe Ser Ile Ser Lys Asp Thr Ala Val Gly Lys Glu	
120 125 130	
gaa gtg cct gca ggg tcc agt gcc tcc act gtg ggg acg gtg aca tca	729
Glu Val Pro Ala Gly Ser Ser Ala Ser Thr Val Gly Thr Val Thr Ser	
135 140 145	
tca gtg gca gga gac ccc atg gag aca tca cct gtg att cac ctg gtg	777
Ser Val Ala Gly Asp Pro Met Glu Thr Ser Pro Val Ile His Leu Val	
150 155 160	
aca gat gcc aag ggt act gtc atc cat gaa gtc cac gtc cag atg cag	825
Thr Asp Ala Lys Gly Thr Val Ile His Glu Val His Val Gln Met Gln	
165 170 175 180	
gag ctt ccc ctg ggc atg aaa gcc ctg acc cca gag tcc cca gac tcg	873
Glu Leu Pro Leu Gly Met Lys Ala Leu Thr Pro Glu Ser Pro Asp Ser	
185 190 195	
gag gag ctc ccc tgt tcc agt gag aac agc cgt gag aac ctg cta cat	921
Glu Glu Leu Pro Cys Ser Ser Glu Asn Ser Arg Glu Asn Leu Leu His	
200 205 210	
cag gcc atg cag aat tct ggc atc gtc ctt gag agg gtt gct gga gag	969
Gln Ala Met Gln Asn Ser Gly Ile Val Leu Glu Arg Val Ala Gly Glu	
215 220 225	
gag agt gct ctg gag cca gcc cct ccc tct ggg tcc agt ccc cag tgc	1017
Glu Ser Ala Leu Glu Pro Ala Pro Pro Ser Gly Ser Ser Pro Gln Cys	
230 235 240	
ctg gga gat gga tcc cct gaa ctg cct ctg ctg aag gtg gag cag ata	1065
Leu Gly Asp Gly Ser Pro Glu Leu Pro Leu Leu Lys Val Glu Gln Ile	

245	250	255	260	
gag aca cag gtg gcc agt gag gcc gcc acc gtg ccc agg acc cac ccg				1113
Glu Thr Gln Val Ala Ser Glu Ala Ala Thr Val Pro Arg Thr His Pro				
	265	270	275	
tgc cct cag tgc agt gag act ttc cca aca gca gcc acg ctg gag gcc				1161
Cys Pro Gln Cys Ser Glu Thr Phe Pro Thr Ala Ala Thr Leu Glu Ala				
	280	285	290	
cac aag aga ggt cac ata gcg ccg agg ccg ttc acc tgc aca cag tgt				1209
His Lys Arg Gly His Ile Ala Pro Arg Pro Phe Thr Cys Thr Gln Cys				
	295	300	305	
ggc aag gcc ttc ccc aaa gcc tac ctg ctc aag aac gac cag gag gtg				1257
Gly Lys Ala Phe Pro Lys Ala Tyr Leu Leu Lys Asn Asp Gln Glu Val				
	310	315	320	
cac gtg cac gag cgc cgc ttc cgt tgt gga gac tgt ggg aag ctt tac				1305
His Val His Glu Arg Arg Phe Arg Cys Gly Asp Cys Gly Lys Leu Tyr				
	325	330	335	340
aag acc atc gct cat gtg cgg ggc cac cgg cgt gtt cac tca gac gag				1353
Lys Thr Ile Ala His Val Arg Gly His Arg Arg Val His Ser Asp Glu				
	345	350	355	
agg cct ttc cct tgt ccc cag tgc ggc aag cgt tac aaa acc aag aat				1401
Arg Pro Phe Pro Cys Pro Gln Cys Gly Lys Arg Tyr Lys Thr Lys Asn				
	360	365	370	
gcc cag caa gta cac ttc cgg aca cac ctg gaa gaa aag ccc cac gtg				1449
Ala Gln Gln Val His Phe Arg Thr His Leu Glu Glu Lys Pro His Val				
	375	380	385	
tgc cag ttc tgc agc cga ggc ttc cgg gag aag ggc tct ctg gtg cgg				1497
Cys Gln Phe Cys Ser Arg Gly Phe Arg Glu Lys Gly Ser Leu Val Arg				
	390	395	400	
cat gtg agg cac cac aca ggc gag aaa cct ttc aag tgc tac aag tgt				1545

His Val Arg His His Thr Gly Glu Lys Pro Phe Lys Cys Tyr Lys Cys
 405 410 415 420
 ggc cgt ggc ttc gcg gac gat ggc aca ctc aac cgg cac ctg cgc act 1593
 Gly Arg Gly Phe Ala Asp Asp Gly Thr Leu Asn Arg His Leu Arg Thr
 425 430 435
 aaa ggg ggc tgc ctg cta gaa gtg gag gag ttg ctg gtg tct gag gag 1641
 Lys Gly Gly Cys Leu Leu Glu Val Glu Glu Leu Leu Val Ser Glu Glu
 440 445 450
 agc cct tct gcg gct gcc act gtg ctt gca gaa gac ccc cac acc gtg 1689
 Ser Pro Ser Ala Ala Ala Thr Val Leu Ala Glu Asp Pro His Thr Val
 455 460 465
 ctg gtg cag ttc tcg tct gtg gta gct gat acc caa gag tac att att 1737
 Leu Val Gln Phe Ser Ser Val Val Ala Asp Thr Gln Glu Tyr Ile Ile
 470 475 480
 gag gcc act gca gat gac aca gag acc agt gaa gcc acc gag atc att 1785
 Glu Ala Thr Ala Asp Asp Thr Glu Thr Ser Glu Ala Thr Glu Ile Ile
 485 490 495 500
 gag ggc acg cag aca gag gtg gac agt cac atc atg aag gtg gtc cag 1833
 Glu Gly Thr Gln Thr Glu Val Asp Ser His Ile Met Lys Val Val Gln
 505 510 515
 cag atc gtg cac cag gct ggt gct ggg cac cag atc atc gtg cag aat 1881
 Gln Ile Val His Gln Ala Gly Ala Gly His Gln Ile Ile Val Gln Asn
 520 525 530
 gtc acc atg gac cag gag aca gca ctg ggt tcg gag gca gct gct gca 1929
 Val Thr Met Asp Gln Glu Thr Ala Leu Gly Ser Glu Ala Ala Ala Ala
 535 540 545
 gac acg atc acc att gcc act cct gag agt ctt act gag cag gtg gcc 1977
 Asp Thr Ile Thr Ile Ala Thr Pro Glu Ser Leu Thr Glu Gln Val Ala
 550 555 560

atg aca ctg gct tca gcg atc agt gag ggt act gtg ctc aca gcc cgg 2025
 Met Thr Leu Ala Ser Ala Ile Ser Glu Gly Thr Val Leu Thr Ala Arg
 565 570 575 580
 gca ggt cca aac agt act gaa cag gcc act gtg aca atg gtg tca tca 2073
 Ala Gly Pro Asn Ser Thr Glu Gln Ala Thr Val Thr Met Val Ser Ser
 585 590 595
 gag gac ata gag atc ctt gag cac gga gga gag ctg gtc att gct tca 2121
 Glu Asp Ile Glu Ile Leu Glu His Gly Gly Glu Leu Val Ile Ala Ser
 600 605 610
 cca gag ggc cag ctt gag gta cag acg gtc atc gta tag ttgagggcc 2170
 Pro Glu Gly Gln Leu Glu Val Gln Thr Val Ile Val
 615 620 625
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 caggcagcca aaggagagag agagagagag agagagagag aacaggcagt ttgggattg 2290
 tttttgtttg ttgtttttct gctttacaat aaaag 2325

<210> 900

<211> 624

<212> PRT

<213> Mus musculus

<400> 900

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 35 40 45
 Leu Lys Ala His Met Val Thr His Ser Ser Arg Lys Asp His Glu Cys

50	55	60			
Lys	Leu	Cys	Gly	Ala	Ser
	Phe	Arg	Thr	Lys	Gly
	Ser	Leu	Ile	Arg	His
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His	Arg	Arg	His	Thr	Asp
	Glu	Arg	Pro	Tyr	Lys
	Cys	Ala	Lys	Cys	Gly
	85	90	95		
Lys	Ser	Phe	Arg	Glu	Ser
	Gly	Ala	Leu	Thr	Arg
	His	Leu	Lys	Ser	Leu
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Thr	Pro	Cys	Thr	Glu	Lys
	Ile	Arg	Phe	Ser	Ile
	Ser	Lys	Asp	Thr	Ala
	115	120	125		
Val	Gly	Lys	Glu	Glu	Val
	Pro	Ala	Gly	Ser	Ser
	Ala	Ser	Thr	Val	Gly
	130	135	140		
Thr	Val	Thr	Ser	Ser	Val
	Ala	Gly	Asp	Pro	Met
	Glu	Thr	Ser	Pro	Val
145	150	155	160		
Ile	His	Leu	Val	Thr	Asp
	Ala	Lys	Gly	Thr	Val
	Ile	His	Glu	Val	His
	165	170	175		
Val	Gln	Met	Gln	Glu	Leu
	Pro	Leu	Gly	Met	Lys
	Ala	Leu	Thr	Pro	Glu
	180	185	190		
Ser	Pro	Asp	Ser	Glu	Glu
	Leu	Pro	Cys	Ser	Ser
	Glu	Asn	Ser	Arg	Glu
	195	200	205		
Asn	Leu	Leu	His	Gln	Ala
	Met	Gln	Asn	Ser	Gly
	Ile	Val	Leu	Glu	Arg
	210	215	220		
Val	Ala	Gly	Glu	Glu	Ser
	Ala	Leu	Glu	Pro	Ala
	Pro	Pro	Ser	Gly	Ser
225	230	235	240		
Ser	Pro	Gln	Cys	Leu	Gly
	Asp	Gly	Ser	Pro	Glu
	Leu	Pro	Leu	Leu	Lys
	245	250	255		
Val	Glu	Gln	Ile	Glu	Thr
	Gln	Val	Ala	Ser	Glu
	Ala	Ala	Thr	Val	Pro
	260	265	270		
Arg	Thr	His	Pro	Cys	Pro
	Gln	Cys	Ser	Glu	Thr
	Phe	Pro	Thr	Ala	Ala
	275	280	285		

Thr Leu Glu Ala His Lys Arg Gly His Ile Ala Pro Arg Pro Phe Thr
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 Cys Thr Gln Cys Gly Lys Ala Phe Pro Lys Ala Tyr Leu Leu Lys Asn
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 Asp Gln Glu Val His Val His Glu Arg Arg Phe Arg Cys Gly Asp Cys
 325 330 335
 Gly Lys Leu Tyr Lys Thr Ile Ala His Val Arg Gly His Arg Arg Val
 340 345 350
 His Ser Asp Glu Arg Pro Phe Pro Cys Pro Gln Cys Gly Lys Arg Tyr
 355 360 365
 Lys Thr Lys Asn Ala Gln Gln Val His Phe Arg Thr His Leu Glu Glu
 370 375 380
 Lys Pro His Val Cys Gln Phe Cys Ser Arg Gly Phe Arg Glu Lys Gly
 385 390 395 400
 Ser Leu Val Arg His Val Arg His His Thr Gly Glu Lys Pro Phe Lys
 405 410 415
 Cys Tyr Lys Cys Gly Arg Gly Phe Ala Asp Asp Gly Thr Leu Asn Arg
 420 425 430
 His Leu Arg Thr Lys Gly Gly Cys Leu Leu Glu Val Glu Glu Leu Leu
 435 440 445
 Val Ser Glu Glu Ser Pro Ser Ala Ala Ala Thr Val Leu Ala Glu Asp
 450 455 460
 Pro His Thr Val Leu Val Gln Phe Ser Ser Val Val Ala Asp Thr Gln
 465 470 475 480
 Glu Tyr Ile Ile Glu Ala Thr Ala Asp Asp Thr Glu Thr Ser Glu Ala
 485 490 495
 Thr Glu Ile Ile Glu Gly Thr Gln Thr Glu Val Asp Ser His Ile Met
 500 505 510
 Lys Val Val Gln Gln Ile Val His Gln Ala Gly Ala Gly His Gln Ile

515	520	525
Ile Val Gln Asn Val Thr Met Asp Gln Glu Thr Ala Leu Gly Ser Glu		
530	535	540
Ala Ala Ala Ala Asp Thr Ile Thr Ile Ala Thr Pro Glu Ser Leu Thr		
545	550	555
Glu Gln Val Ala Met Thr Leu Ala Ser Ala Ile Ser Glu Gly Thr Val		
565	570	575
Leu Thr Ala Arg Ala Gly Pro Asn Ser Thr Glu Gln Ala Thr Val Thr		
580	585	590
Met Val Ser Ser Glu Asp Ile Glu Ile Leu Glu His Gly Gly Glu Leu		
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Val Ile Ala Ser Pro Glu Gly Gln Leu Glu Val Gln Thr Val Ile Val		
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<210> 901

<211> 504

<212> DNA

<213> Mus musculus

<400> 901

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 agagatactg cttatgcaac cctgggggtct tccagtctac agacaccctg ctacgtgttg 180
 tcctttgccg tgatcatgct gaacaccagc ctttcaaate ccaatgtcag gggaaaagcg 240
 gggcttgaac gcttttgttg ccatggaccc ggggaatcac gaggtttggg atctgcctga 300
 ggatcttctc aggaacctct acgacagcat ccggcggcgc aacgaagagc tgctgggttg 360
 agattcagcg cctgtcagaa agagctaagt gaagctatga gccaggttga gggctttgag 420
 gccaaattagg gcagtaagac ctttgcagcg gaccggaaaa ttgcaatggg caggaagaat 480
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<210> 902

<211> 3466

<212> DNA

<213> *Mus musculus*

<220>

<221> CDS

<222> (54).. (2291)

<400> 902

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Glu Arg Pro Pro Gly Leu Arg Pro Gly Ala Gly Gly Pro Trp Glu Met
           5                10                15
cgg gaa cgg ctt ggc acc ggc ggt ttc ggg aac gtc agt ctg tac cag      152
Arg Glu Arg Leu Gly Thr Gly Gly Phe Gly Asn Val Ser Leu Tyr Gln
           20                25                30
cac cgg gaa ctt gat ctc aaa ata gca att aag tct tgt cgt tta gag      200
His Arg Glu Leu Asp Leu Lys Ile Ala Ile Lys Ser Cys Arg Leu Glu
           35                40                45
cta agt tcc aaa aac aga gag cga tgg tgc cat gaa atc cag atc atg      248
Leu Ser Ser Lys Asn Arg Glu Arg Trp Cys His Glu Ile Gln Ile Met
           50                55                60                65
aaa aag ttg gac cat gcg aat gtt gta aag gcc tgt gat gtc cct gag      296
Lys Lys Leu Asp His Ala Asn Val Val Lys Ala Cys Asp Val Pro Glu
           70                75                80

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gaa ttg aac ttt tta att aac gat gtg cct ctt ctg gca atg gag tac 344
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 tgt tct gga ggg gac ctc cgg aag cta ctc aac aaa cca gaa aat tgt 392
 Cys Ser Gly Gly Asp Leu Arg Lys Leu Leu Asn Lys Pro Glu Asn Cys
 100 105 110
 tgt gga ctt aaa gaa agc cag ata ctt tct tta ctg agt gac ata gga 440
 Cys Gly Leu Lys Glu Ser Gln Ile Leu Ser Leu Leu Ser Asp Ile Gly
 115 120 125
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 Ser Gly Ile Arg Tyr Leu His Glu Asn Lys Ile Ile His Arg Asp Leu
 130 135 140 145
 aaa cct gaa aat ata gtt ctt caa gat gtt ggt ggg aag aca ata cat 536
 Lys Pro Glu Asn Ile Val Leu Gln Asp Val Gly Gly Lys Thr Ile His
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 Lys Ile Ile Asp Leu Gly Tyr Ala Lys Asp Val Asp Gln Gly Ser Leu
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 Cys Thr Ser Phe Val Gly Thr Leu Gln Tyr Leu Ala Pro Glu Leu Phe
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 Glu Asn Lys Pro Tyr Thr Ala Thr Val Asp Tyr Trp Ser Phe Gly Thr
 195 200 205
 atg gtg ttt gaa tgt att gct gga tat agg cct ttt ttg cat cat ctg 728
 Met Val Phe Glu Cys Ile Ala Gly Tyr Arg Pro Phe Leu His His Leu
 210 215 220 225
 cag cca ttt acc tgg cat gag aag att aag aag aaa gat cca aag tgt 776
 Gln Pro Phe Thr Trp His Glu Lys Ile Lys Lys Lys Asp Pro Lys Cys

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ata ttt gca tgt gaa gag atg act gga gaa gtt cgg ttt agt agc cat			824
Ile Phe Ala Cys Glu Glu Met Thr Gly Glu Val Arg Phe Ser Ser His			
245	250	255	
tta cct cag cca aac agc ctt tgt agt tta ata gta gag cca atg gaa			872
Leu Pro Gln Pro Asn Ser Leu Cys Ser Leu Ile Val Glu Pro Met Glu			
260	265	270	
agc tgg ctc caa ttg atg ctg aat tgg gac cca cag cag aga ggg gga			920
Ser Trp Leu Gln Leu Met Leu Asn Trp Asp Pro Gln Gln Arg Gly Gly			
275	280	285	
cct att gat ctt act ttg aag cag cca aga tgt ttt gca tta atg gat			968
Pro Ile Asp Leu Thr Leu Lys Gln Pro Arg Cys Phe Ala Leu Met Asp			
290	295	300	305
cac att ctc aat tta aag ata gtg cac atc cta aat atg act tct gca			1016
His Ile Leu Asn Leu Lys Ile Val His Ile Leu Asn Met Thr Ser Ala			
310	315	320	
aaa atc att tct ttt ctg tta cca tgt gat gaa agt ctt cat tca cta			1064
Lys Ile Ile Ser Phe Leu Leu Pro Cys Asp Glu Ser Leu His Ser Leu			
325	330	335	
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Gln Ser Arg Ile Glu Arg Glu Thr Gly Ile Asn Thr Gly Ser Gln Glu			
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Leu Leu Ser Glu Thr Gly Ile Ser Leu Asp Pro Arg Lys Pro Ala Ser			
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Gln Cys Val Leu Asp Gly Val Arg Gly Cys Asp Ser Tyr Met Val Tyr			
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Lys Asn Thr Leu Ile Ser Ala Ser Gln Gln Leu Lys Ala Lys Leu Glu	
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Phe Phe Arg Lys Ser Ile Gln Leu Asp Leu Glu Arg Tyr Ser Glu Gln	
485 490 495	
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Met Thr Tyr Gly Ile Ser Ser Glu Lys Met Leu Lys Ala Trp Lys Glu	
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Met Glu Glu Lys Ala Ile His Tyr Ser Glu Val Gly Val Ile Gly Tyr	
515 520 525	
ctt gag gat caa att atg tct ttg cac act gaa atc atg gag ctg cag	1688
Leu Glu Asp Gln Ile Met Ser Leu His Thr Glu Ile Met Glu Leu Gln	
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Gln Arg Ala Ile Asp Leu Tyr Lys Gln Leu Lys His Arg Pro Pro Asp
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His Leu Tyr Ser Asp Ser Thr Glu Met Val Lys Ile Ile Val His Thr
580 585 590
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Val Gln Ser Gln Asp Arg Val Leu Lys Glu Leu Phe Gly His Leu Ser
595 600 605
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Lys Leu Leu Gly Cys Lys Gln Lys Ile Ile Asp Leu Leu Pro Lys Val
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645 650 655
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Cys Thr Gln Ser Ser Ala Arg Ser Leu Val Gly Ser Ser Leu Glu Gly
660 665 670
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Thr Val Thr Pro Pro Val Ser Ala Trp Leu Pro Pro Thr Leu Ala Asp
675 680 685
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Arg Glu His Pro Leu Thr Cys Val Val Thr Pro Gln Asp Gly Glu Thr

690	695	700	705	
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Leu Ala Gln Met Ile Glu Glu Asn Leu Asn Cys Leu Gly His Leu Ser				
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Thr Ile Ile Arg Glu Ala Asn Glu Asp Gln Ser Ser Ser Leu Met Ser				
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Leu Asp Trp Ser Trp Leu Ala Glu				
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3466

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<211> 745

<212> PRT

<213> Mus musculus

<400> 903

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 Glu Leu Ser Ser Lys Asn Arg Glu Arg Trp Cys His Glu Ile Gln Ile
 50 55 60
 Met Lys Lys Leu Asp His Ala Asn Val Val Lys Ala Cys Asp Val Pro
 65 70 75 80
 Glu Glu Leu Asn Phe Leu Ile Asn Asp Val Pro Leu Leu Ala Met Glu
 85 90 95
 Tyr Cys Ser Gly Gly Asp Leu Arg Lys Leu Leu Asn Lys Pro Glu Asn
 100 105 110
 Cys Cys Gly Leu Lys Glu Ser Gln Ile Leu Ser Leu Leu Ser Asp Ile
 115 120 125
 Gly Ser Gly Ile Arg Tyr Leu His Glu Asn Lys Ile Ile His Arg Asp
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 145 150 155 160
 His Lys Ile Ile Asp Leu Gly Tyr Ala Lys Asp Val Asp Gln Gly Ser

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Phe Glu Asn Lys Pro Tyr Thr Ala Thr Val Asp Tyr Trp Ser Phe Gly			
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Thr Met Val Phe Glu Cys Ile Ala Gly Tyr Arg Pro Phe Leu His His			
	210	215	220
Leu Gln Pro Phe Thr Trp His Glu Lys Ile Lys Lys Lys Asp Pro Lys			
225	230	235	240
Cys Ile Phe Ala Cys Glu Glu Met Thr Gly Glu Val Arg Phe Ser Ser			
	245	250	255
His Leu Pro Gln Pro Asn Ser Leu Cys Ser Leu Ile Val Glu Pro Met			
	260	265	270
Glu Ser Trp Leu Gln Leu Met Leu Asn Trp Asp Pro Gln Gln Arg Gly			
	275	280	285
Gly Pro Ile Asp Leu Thr Leu Lys Gln Pro Arg Cys Phe Ala Leu Met			
	290	295	300
Asp His Ile Leu Asn Leu Lys Ile Val His Ile Leu Asn Met Thr Ser			
305	310	315	320
Ala Lys Ile Ile Ser Phe Leu Leu Pro Cys Asp Glu Ser Leu His Ser			
	325	330	335
Leu Gln Ser Arg Ile Glu Arg Glu Thr Gly Ile Asn Thr Gly Ser Gln			
	340	345	350
Glu Leu Leu Ser Glu Thr Gly Ile Ser Leu Asp Pro Arg Lys Pro Ala			
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Ser Gln Cys Val Leu Asp Gly Val Arg Gly Cys Asp Ser Tyr Met Val			
	370	375	380
Tyr Leu Phe Asp Lys Ser Lys Thr Val Tyr Glu Gly Pro Phe Ala Ser			
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 Tyr Val Ser Gly Leu Lys Glu Asp Tyr Ser Arg Leu Phe Gln Gly Gln
 435 440 445
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 Met Lys Asn Thr Leu Ile Ser Ala Ser Gln Gln Leu Lys Ala Lys Leu
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 485 490 495
 Gln Met Thr Tyr Gly Ile Ser Ser Glu Lys Met Leu Lys Ala Trp Lys
 500 505 510
 Glu Met Glu Glu Lys Ala Ile His Tyr Ser Glu Val Gly Val Ile Gly
 515 520 525
 Tyr Leu Glu Asp Gln Ile Met Ser Leu His Thr Glu Ile Met Glu Leu
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 Gln Lys Ser Pro Tyr Gly Arg Arg Gln Gly Asp Leu Met Glu Ser Leu
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 Glu Gln Arg Ala Ile Asp Leu Tyr Lys Gln Leu Lys His Arg Pro Pro
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 Asp His Leu Tyr Ser Asp Ser Thr Glu Met Val Lys Ile Ile Val His
 580 585 590
 Thr Val Gln Ser Gln Asp Arg Val Leu Lys Glu Leu Phe Gly His Leu
 595 600 605
 Ser Lys Leu Leu Gly Cys Lys Gln Lys Ile Ile Asp Leu Leu Pro Lys
 610 615 620
 Val Glu Val Ala Leu Ser Asn Ile Lys Glu Ala Asp Asn Thr Val Met

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Phe Met Gln Gly Lys Arg Gln Lys Glu Ile Trp His Leu Leu Lys Ile			
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Ala Cys Thr Gln Ser Ser Ala Arg Ser Leu Val Gly Ser Ser Leu Glu			
	660	665	670
Gly Thr Val Thr Pro Pro Val Ser Ala Trp Leu Pro Pro Thr Leu Ala			
	675	680	685
Asp Arg Glu His Pro Leu Thr Cys Val Val Thr Pro Gln Asp Gly Glu			
	690	695	700
Thr Leu Ala Gln Met Ile Glu Glu Asn Leu Asn Cys Leu Gly His Leu			
705	710	715	720
Ser Thr Ile Ile Arg Glu Ala Asn Glu Asp Gln Ser Ser Ser Leu Met			
	725	730	735
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	740	745	

<210> 904

<211> 13815

<212> DNA

<213> Mus musculus

<400> 904

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 gaa cga ata aat cca gag ctc aac cag aag ggg tac agt gtg aag tct 854
 Glu Arg Ile Asn Pro Glu Leu Asn Gln Lys Gly Tyr Ser Val Lys Ser
 130 135 140
 gac att tgg agc ctg ggc atc acc atg atc gag ctg gcc atc ctt cgg 902
 Asp Ile Trp Ser Leu Gly Ile Thr Met Ile Glu Leu Ala Ile Leu Arg
 145 150 155
 ttt cct tat gat tct tgg gga acg ccc ttc cag cag cta aag cag gtg 950
 Phe Pro Tyr Asp Ser Trp Gly Thr Pro Phe Gln Gln Leu Lys Gln Val

160	165	170	
gtc gaa gag ccc tct cct cag ctc cca gca gac aag ttc tcc gcg gac			998
Val Glu Glu Pro Ser Pro Gln Leu Pro Ala Asp Lys Phe Ser Ala Asp			
175	180	185	
ttt gtt gac ttt acc tca cag tgc ttg aag aaa aat tcc aaa gaa cgg			1046
Phe Val Asp Phe Thr Ser Gln Cys Leu Lys Lys Asn Ser Lys Glu Arg			
190	195	200	205
ccc aca tat cca gag ctt atg caa cat cca ttt ttc acc gta cat gaa			1094
Pro Thr Tyr Pro Glu Leu Met Gln His Pro Phe Phe Thr Val His Glu			
210	215	220	
tcc aaa gca gca gac gtg gca tct ttt gta aaa ctg ata ctt ggg gac			1142
Ser Lys Ala Ala Asp Val Ala Ser Phe Val Lys Leu Ile Leu Gly Asp			
225	230	235	
taa aaagccatgg acttaactgg tcgaccctac tgtggattgg tgggtttaca			1195
gggtgaagaa agttcactac agagccaaca gaaagtcate ttgaggtcac tgaaccctgc			1255
ctttctgagg ggtttcctct ccccgttttt ctttttcttc tccaaagggg gccttggaa			1315
ctctagcgta ggctgaactc tctagatgga tgaaatacaa caaaggctta ggacttgaaa			1375
tggtgattaa atatittaag gcaagtcata cgggtgggtc ctcgagcttc tcagatctct			1435
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gattgtgaag tagattigta gcgtatcca cttattattt taatatttat gtttcagtgc			1555
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atttaatatg catttttaag gatattataa aaatctccag caaaggggt cttcctgtac			1735
agtgtggctt gcagctctca tggctgtgc tcccgactgt caactcaacc gtggctgata			1795
atcgcatcgt ttgaatgaac tgtcaaagtt aatgtccccc cgctccctc ccccaacttt			1855
ggaaccatg aaagtcactt gtatcacggc tcaaagagta aaaaaataca atggttctct			1915
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<210> 907

<211> 237

<212> PRT

<213> Mus musculus

<400> 907

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Glu Leu Met Asp Thr Ser Leu Asp Lys Phe Tyr Lys Gln Val Ile Asp
      35             40             45
Lys Gly Gln Thr Ile Pro Glu Asp Ile Leu Gly Lys Ile Ala Val Ser
      50             55             60
Ile Val Lys Ala Leu Glu His Leu His Ser Lys Leu Ser Val Ile His
      65             70             75             80
Arg Asp Val Lys Pro Ser Asn Val Leu Ile Asn Thr Leu Gly Gln Val
      85             90             95
Lys Met Cys Asp Phe Gly Ile Ser Gly Tyr Leu Val Asp Ser Val Ala
      100            105            110
Lys Thr Ile Asp Ala Gly Cys Lys Pro Tyr Met Ala Pro Glu Arg Ile
      115            120            125
Asn Pro Glu Leu Asn Gln Lys Gly Tyr Ser Val Lys Ser Asp Ile Trp
      130            135            140
Ser Leu Gly Ile Thr Met Ile Glu Leu Ala Ile Leu Arg Phe Pro Tyr
      145            150            155            160
Asp Ser Trp Gly Thr Pro Phe Gln Gln Leu Lys Gln Val Val Glu Glu
      165            170            175
Pro Ser Pro Gln Leu Pro Ala Asp Lys Phe Ser Ala Asp Phe Val Asp

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180	185	190
Phe Thr Ser Gln Cys Leu Lys Lys Asn Ser Lys Glu Arg Pro Thr Tyr		
195	200	205
Pro Glu Leu Met Gln His Pro Phe Phe Thr Val His Glu Ser Lys Ala		
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Ala Asp Val Ala Ser Phe Val Lys Leu Ile Leu Gly Asp		
225	230	235

<210> 908

<211> 1954

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (552).. (1337)

<400> 908

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tgaggcgtac gccggctgcc gagcgctct cggagctggg ttttcccccg cggcgcgggc 180
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atgccggaag g atg ctg gag aac agc ggc tgc aag gcg ctg aag gaa gga 590
Met Leu Glu Asn Ser Gly Cys Lys Ala Leu Lys Glu Gly

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Val Leu Glu Lys Arg Ser Asp Gly Leu Leu Gln Leu Trp Lys Lys Lys			
15	20	25	
tgc tgc atc ctc acc gag gaa ggg cta ctg ctc ata ccg ccc aag cag			686
Cys Cys Ile Leu Thr Glu Glu Gly Leu Leu Leu Ile Pro Pro Lys Gln			
30	35	40	45
cta caa cag cag cag cag cag caa cag ccc ggg cag ggg acg gcc gaa			734
Leu Gln Gln Gln Gln Gln Gln Gln Gln Pro Gly Gln Gly Thr Ala Glu			
50	55	60	
ccg tcc caa cct agt ggc ccc acc gtc gcc agc ctt gag cca cca gtc			782
Pro Ser Gln Pro Ser Gly Pro Thr Val Ala Ser Leu Glu Pro Pro Val			
65	70	75	
aag ctg aag gaa ttg cac ttt tcc aat atg aag act gta gac tgc gtg			830
Lys Leu Lys Glu Leu His Phe Ser Asn Met Lys Thr Val Asp Cys Val			
80	85	90	
gag cgc aag ggc aag tac atg tac ttc act gtg gtg atg acg gag ggc			878
Glu Arg Lys Gly Lys Tyr Met Tyr Phe Thr Val Val Met Thr Glu Gly			
95	100	105	
aaa gag atc gac ttt cgg tgc ccc cag gac cag ggc tgg aac gcc gag			926
Lys Glu Ile Asp Phe Arg Cys Pro Gln Asp Gln Gly Trp Asn Ala Glu			
110	115	120	125
atc acg ttg cag atg gtg cag tac aaa aat cgc cag gcc ata ctg gcg			974
Ile Thr Leu Gln Met Val Gln Tyr Lys Asn Arg Gln Ala Ile Leu Ala			
130	135	140	
gtc aag tct acc agg cag aag cag cag cac ctg gtc cag cag cag cct			1022
Val Lys Ser Thr Arg Gln Lys Gln Gln His Leu Val Gln Gln Gln Pro			
145	150	155	
ccg cag acg cag cag atc caa ccc cag ccc cag ccg cag atc caa ccc			1070

Pro Gln Thr Gln Gln Ile Gln Pro Gln Pro Gln Pro Gln Ile Gln Pro
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 cag ccc cag ccg cag atc cag cct caa ccc caa ccc cag ccc caa cct 1118
 Gln Pro Gln Pro Gln Ile Gln Pro Gln Pro Gln Pro Gln Pro Gln Pro
 175 180 185
 cag ccc caa cct cag ccc caa ccc caa ccc caa cag ctc cac tcc tac 1166
 Gln Pro Gln Pro Gln Pro Gln Pro Gln Pro Gln Gln Leu His Ser Tyr
 190 195 200 205
 ccg cat ccg cat cct cat cct tac tct cac ccg cac cag cac cca cac 1214
 Pro His Pro His Pro His Pro Tyr Ser His Pro His Gln His Pro His
 210 215 220
 ccg cac ccg cac ccg cac cct cac cct cac cct cac ccg tac caa ctc 1262
 Pro His Pro His Pro His Pro His Pro His Pro His Pro Tyr Gln Leu
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 cag cac gcg cac cag cct ctt cac tcg cag ccg cag ggt cac cgg ctt 1310
 Gln His Ala His Gln Pro Leu His Ser Gln Pro Gln Gly His Arg Leu
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 ctc cgc agc acc tcc aac tct gcc tga agagggcggc acccgggcca 1357
 Leu Arg Ser Thr Ser Asn Ser Ala
 255 260
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<210> 909

<211> 261

<212> PRT

<213> Mus musculus

<400> 909

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Leu Thr Glu Glu Gly Leu Leu Leu Ile Pro Pro Lys Gln Leu Gln Gln

35 40 45

Gln Gln Gln Gln Gln Gln Pro Gly Gln Gly Thr Ala Glu Pro Ser Gln

50 55 60

Pro Ser Gly Pro Thr Val Ala Ser Leu Glu Pro Pro Val Lys Leu Lys

65 70 75 80

Glu Leu His Phe Ser Asn Met Lys Thr Val Asp Cys Val Glu Arg Lys

85 90 95

Gly Lys Tyr Met Tyr Phe Thr Val Val Met Thr Glu Gly Lys Glu Ile

100 105 110

Asp Phe Arg Cys Pro Gln Asp Gln Gly Trp Asn Ala Glu Ile Thr Leu

115 120 125

Gln Met Val Gln Tyr Lys Asn Arg Gln Ala Ile Leu Ala Val Lys Ser

130 135 140

Thr Arg Gln Lys Gln Gln His Leu Val Gln Gln Gln Pro Pro Gln Thr

145 150 155 160

Gln Gln Ile Gln Pro Gln Pro Gln Pro Gln Ile Gln Pro Gln Pro Gln

165 170 175
 Pro Gln Ile Gln Pro Gln Pro Gln Pro Gln Pro Gln Pro Gln Pro Gln
 180 185 190
 Pro Gln Pro Gln Pro Gln Pro Gln Gln Leu His Ser Tyr Pro His Pro
 195 200 205
 His Pro His Pro Tyr Ser His Pro His Gln His Pro His Pro His Pro
 210 215 220
 His Pro His Pro His Pro His Pro His Pro Tyr Gln Leu Gln His Ala
 225 230 235 240
 His Gln Pro Leu His Ser Gln Pro Gln Gly His Arg Leu Leu Arg Ser
 245 250 255
 Thr Ser Asn Ser Ala
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<210> 910

<211> 1238

<212> DNA

<213> Mus musculus.

<220>

<221> CDS

<222> (1).. (1017)

<400> 910

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 cct ttc aaa cca att aat aca tca ttg tat ttg tgc gac aat aag ttt 96
 Pro Phe Lys Pro Ile Asn Thr Ser Leu Tyr Leu Cys Asp Asn Lys Phe

20	25	30	
cat aca gag gct ctt aca gcg tta ctt tca gat gac agc aag ttt ggt	144		
His Thr Glu Ala Leu Thr Ala Leu Leu Ser Asp Asp Ser Lys Phe Gly			
35	40	45	
ttt att gta ata gac gga agt ggt gct ctt ttt ggc acg ctc caa gga	192		
Phe Ile Val Ile Asp Gly Ser Gly Ala Leu Phe Gly Thr Leu Gln Gly			
50	55	60	
aac acc aga gaa gtc ctg cac aaa ttc act gtg gat ctc cca aag aaa	240		
Asn Thr Arg Glu Val Leu His Lys Phe Thr Val Asp Leu Pro Lys Lys			
65	70	75	80
cac ggc aga gga ggt caa tca gcc ttg cgt ttt gcc cgt tta aga atg	288		
His Gly Arg Gly Gly Gln Ser Ala Leu Arg Phe Ala Arg Leu Arg Met			
85	90	95	
gaa aag aga cat aac tat gtt cgg aaa gta gcc gag act gct gtg cag	336		
Glu Lys Arg His Asn Tyr Val Arg Lys Val Ala Glu Thr Ala Val Gln			
100	105	110	
ctg ttt att tct gga gac caa gtg aat gtg gct ggt ttg gtt tta gct	384		
Leu Phe Ile Ser Gly Asp Gln Val Asn Val Ala Gly Leu Val Leu Ala			
115	120	125	
gga tca gct gac ttt aaa act gaa cta agt caa tct gac atg ttt gac	432		
Gly Ser Ala Asp Phe Lys Thr Glu Leu Ser Gln Ser Asp Met Phe Asp			
130	135	140	
cag agg ttg caa tct aaa gtt tta aaa tta gtt gat ata tcc tat ggt	480		
Gln Arg Leu Gln Ser Lys Val Leu Lys Leu Val Asp Ile Ser Tyr Gly			
145	150	155	160
ggt gaa aat gga ttc aac caa gct att gaa tta tct act gaa gtt ctc	528		
Gly Glu Asn Gly Phe Asn Gln Ala Ile Glu Leu Ser Thr Glu Val Leu			
165	170	175	
tcc aac gtg aag ttc att caa gag aag aaa tta ata gga cga tat ttt	576		

Ser Asn Val Lys Phe Ile Gln Glu Lys Lys Leu Ile Gly Arg Tyr Phe
 180 185 190
 gat gaa att agc cag gac aca ggc aag tac tgt ttt gga gtt gaa gat 624
 Asp Glu Ile Ser Gln Asp Thr Gly Lys Tyr Cys Phe Gly Val Glu Asp
 195 200 205
 aca cta aag gct ttg gaa atg gga gct gta caa att cta ata gtc tat 672
 Thr Leu Lys Ala Leu Glu Met Gly Ala Val Gln Ile Leu Ile Val Tyr
 210 215 220
 gaa aat ctg gat ata atg aga tac gtt ctt cat tgc caa ggc aca gaa 720
 Glu Asn Leu Asp Ile Met Arg Tyr Val Leu His Cys Gln Gly Thr Glu
 225 230 235 240
 gag gag aaa att ctc tat tta act cca gaa caa gag aag gat aaa tct 768
 Glu Glu Lys Ile Leu Tyr Leu Thr Pro Glu Gln Glu Lys Asp Lys Ser
 245 250 255
 cac ttc aca gac aaa gag act gga cag gaa cac gaa ctg ata gaa agc 816
 His Phe Thr Asp Lys Glu Thr Gly Gln Glu His Glu Leu Ile Glu Ser
 260 265 270
 atg cct ctc ttg gaa tgg ttt gct aac aac tat aaa aaa ttt gga gct 864
 Met Pro Leu Leu Glu Trp Phe Ala Asn Asn Tyr Lys Lys Phe Gly Ala
 275 280 285
 aca cta gaa att gtc aca gat aag tca caa gaa gga tca cag ttt gtg 912
 Thr Leu Glu Ile Val Thr Asp Lys Ser Gln Glu Gly Ser Gln Phe Val
 290 295 300
 aaa gga ttt ggt gga att gga ggt atc ttg cgg tac cga gta gat ttc 960
 Lys Gly Phe Gly Gly Ile Gly Gly Ile Leu Arg Tyr Arg Val Asp Phe
 305 310 31
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 cag gga atg gag tac caa gga gga gat gat gaa ttt ttt gac ctt gat 1008
 Gln Gly Met Glu Tyr Gln Gly Gly Asp Asp Glu Phe Phe Asp Leu Asp

325 330 335
 gac tac tag gtagtcgaca tgggtccggc aaccgtgcct caccctccag 1057
 Asp Tyr
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 t 1238

<210> 911

<211> 338

<212> PRT

<213> Mus musculus

<400> 911

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 35 40 45
 Phe Ile Val Ile Asp Gly Ser Gly Ala Leu Phe Gly Thr Leu Gln Gly
 50 55 60
 Asn Thr Arg Glu Val Leu His Lys Phe Thr Val Asp Leu Pro Lys Lys
 65 70 75 80
 His Gly Arg Gly Gly Gln Ser Ala Leu Arg Phe Ala Arg Leu Arg Met
 85 90 95
 Glu Lys Arg His Asn Tyr Val Arg Lys Val Ala Glu Thr Ala Val Gln
 100 105 110
 Leu Phe Ile Ser Gly Asp Gln Val Asn Val Ala Gly Leu Val Leu Ala

115	120	125
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130	135	140
Gln Arg Leu Gln Ser Lys Val Leu Lys Leu Val Asp Ile Ser Tyr Gly		
145	150	155
Gly Glu Asn Gly Phe Asn Gln Ala Ile Glu Leu Ser Thr Glu Val Leu		160
165	170	175
Ser Asn Val Lys Phe Ile Gln Glu Lys Lys Leu Ile Gly Arg Tyr Phe		
180	185	190
Asp Glu Ile Ser Gln Asp Thr Gly Lys Tyr Cys Phe Gly Val Glu Asp		
195	200	205
Thr Leu Lys Ala Leu Glu Met Gly Ala Val Gln Ile Leu Ile Val Tyr		
210	215	220
Glu Asn Leu Asp Ile Met Arg Tyr Val Leu His Cys Gln Gly Thr Glu		
225	230	235
Glu Glu Lys Ile Leu Tyr Leu Thr Pro Glu Gln Glu Lys Asp Lys Ser		240
245	250	255
His Phe Thr Asp Lys Glu Thr Gly Gln Glu His Glu Leu Ile Glu Ser		
260	265	270
Met Pro Leu Leu Glu Trp Phe Ala Asn Asn Tyr Lys Lys Phe Gly Ala		
275	280	285
Thr Leu Glu Ile Val Thr Asp Lys Ser Gln Glu Gly Ser Gln Phe Val		
290	295	300
Lys Gly Phe Gly Gly Ile Gly Gly Ile Leu Arg Tyr Arg Val Asp Phe		
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Asp Tyr		

<210> 912

<211> 2953

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (222).. (2432)

<400> 912

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 gttgggtggg cggctgagcc cgggagcgcg cgagcgagac c atg gcg ggc agc agc 236

Met Ala Gly Ser Ser

1

5

gcg ggg ggc ggt ggt gta ggc gag acg aag gtg att tac cat ctg gat 284
 Ala Gly Gly Gly Gly Val Gly Glu Thr Lys Val Ile Tyr His Leu Asp

10

15

20

gaa gaa gag act cct tac ctg gtg aag atc cct gtc ccg gcg gag cgc 332
 Glu Glu Glu Thr Pro Tyr Leu Val Lys Ile Pro Val Pro Ala Glu Arg

25

30

35

atc acg ctc ggc gat ttc aag agc gtt ttg cag cgg ccc gcg ggc gcc 380
 Ile Thr Leu Gly Asp Phe Lys Ser Val Leu Gln Arg Pro Ala Gly Ala

40

45

50

aag tac ttt ttc aag tcc atg gat cag gat ttt ggg gtg gtg aag gaa 428
 Lys Tyr Phe Phe Lys Ser Met Asp Gln Asp Phe Gly Val Val Lys Glu

55

60

65

gag atc tcc gat gac aat gcc cgc cta cct tgc ttc aat gga agg gtt 476

Glu Ile Ser Asp Asp Asn Ala Arg Leu Pro Cys Phe Asn Gly Arg Val
 70 75 80 85
 gtc tcc tgg ctt gtg tcg tca gat acc cca cag cct gag gtg gct ccc 524
 Val Ser Trp Leu Val Ser Ser Asp Thr Pro Gln Pro Glu Val Ala Pro
 90 95 100
 cca gcc cat gag tct cgg aca gaa ctg gtt cct ccg cct cca ccc tta 572
 Pro Ala His Glu Ser Arg Thr Glu Leu Val Pro Pro Pro Pro Pro Leu
 105 110 115
 ccc cct ttg cca cca gaa agg acc agt gga att ggg gac tca agg cct 620
 Pro Pro Leu Pro Pro Glu Arg Thr Ser Gly Ile Gly Asp Ser Arg Pro
 120 125 130
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 Pro Ser Phe His Pro Asn Val Ser Ser Ser His Glu Asn Leu Glu Pro
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 Glu Thr Glu Thr Glu Ser Val Val Ser Leu Arg Arg Asp Arg Pro Arg
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 agg aga gac agc agt gaa cat ggc gct ggt ggc cac agg cct ggt ggc 764
 Arg Arg Asp Ser Ser Glu His Gly Ala Gly Gly His Arg Pro Gly Gly
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 ccc tcg agg ctg gag cgc cac ctg gct ggc tac gag agc tct tcc acc 812
 Pro Ser Arg Leu Glu Arg His Leu Ala Gly Tyr Glu Ser Ser Ser Thr
 185 190 195
 ctc atg acc agt gag ctg gag agt acc agc cta gga gac tcg gat gag 860
 Leu Met Thr Ser Glu Leu Glu Ser Thr Ser Leu Gly Asp Ser Asp Glu
 200 205 210
 gat gac acc atg agt agg ttc agc agc tcc act gag cag agc agt gcc 908
 Asp Asp Thr Met Ser Arg Phe Ser Ser Ser Thr Glu Gln Ser Ser Ala
 215 220 225

2259/2644

375	380	385	
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Phe Pro Ala Tyr Pro Gly Ser Ser Ser Met Ser Thr Ile Thr Ser Gly			
390	395	400	405
tcc tct ctg cct gat ggc tgc gaa ggc cgg ggt ctc tct gtc cac atg	1484		
Ser Ser Leu Pro Asp Gly Cys Glu Gly Arg Gly Leu Ser Val His Met			
410	415	420	
gac atg gcc tct gtc acc aag gcc atg gca gcc cca gag tct ggg ctc	1532		
Asp Met Ala Ser Val Thr Lys Ala Met Ala Ala Pro Glu Ser Gly Leu			
425	430	435	
gaa gtc cgg gac cgc atg tgg ctc aag atc acc atc cca aac gcc ttt	1580		
Glu Val Arg Asp Arg Met Trp Leu Lys Ile Thr Ile Pro Asn Ala Phe			
440	445	450	
cta ggc tcc gat gtg gtg gac tgg ctg tac cat cac gtg gaa ggt ttt	1628		
Leu Gly Ser Asp Val Val Asp Trp Leu Tyr His His Val Glu Gly Phe			
455	460	465	
cct gag cgc cgg gag gcc cgc aag tat gcc agt ggg ctg ttg aag gcg	1676		
Pro Glu Arg Arg Glu Ala Arg Lys Tyr Ala Ser Gly Leu Leu Lys Ala			
470	475	480	485
gga ctc atc cgg cac acc gtc aac aag att act ttc tct gag cag tgc	1724		
Gly Leu Ile Arg His Thr Val Asn Lys Ile Thr Phe Ser Glu Gln Cys			
490	495	500	
tat tat gtc ttc ggg gac ctc agt ggt ggc tgt gag agt tac cta gtt	1772		
Tyr Tyr Val Phe Gly Asp Leu Ser Gly Gly Cys Glu Ser Tyr Leu Val			
505	510	515	
aac ctc tct ctg aat gac aat gac ggt tcc agt ggg gct tca gac cag	1820		
Asn Leu Ser Leu Asn Asp Asn Asp Gly Ser Ser Gly Ala Ser Asp Gln			
520	525	530	
gat acc ctg gca cct ctg cct gga gct act ccc tgg ccc ctg ctg ccc	1868		

Asp Thr Leu Ala Pro Leu Pro Gly Ala Thr Pro Trp Pro Leu Leu Pro
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 Thr Phe Ser Tyr Gln Tyr Pro Ala Pro His Pro Tyr Ser Pro Gln Pro
 550 555 560 565
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 Pro Pro Tyr His Glu Leu Ser Ser Tyr Thr Tyr Gly Gly Gly Ser Ala
 570 575 580
 agc agc cag cac agt gag ggg agc cgg agc agc ggg tcg aca aga agc 2012
 Ser Ser Gln His Ser Glu Gly Ser Arg Ser Ser Gly Ser Thr Arg Ser
 585 590 595
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 Asp Gly Gly Ala Gly Arg Thr Gly Arg Pro Glu Glu Arg Ala Pro Glu
 600 605 610
 tcc aag tcc ggc agt ggc agt gag tca gaa ctc tcc agc cgg gga ggc 2108
 Ser Lys Ser Gly Ser Gly Ser Glu Ser Glu Leu Ser Ser Arg Gly Gly
 615 620 625
 agc ctt cgg cgg ggt ggg gag cct ggt ggg act ggt gat ggc ggc cct 2156
 Ser Leu Arg Arg Gly Gly Glu Pro Gly Gly Thr Gly Asp Gly Gly Pro
 630 635 640 645
 cct cca tcc agg ggc tcg aca ggc gct cct cct aat ctc cga gct ctt 2204
 Pro Pro Ser Arg Gly Ser Thr Gly Ala Pro Pro Asn Leu Arg Ala Leu
 650 655 660
 ccc ggg ctc cat ccc tat gga gcc cca tct ggc atg gct ctc ccc tat 2252
 Pro Gly Leu His Pro Tyr Gly Ala Pro Ser Gly Met Ala Leu Pro Tyr
 665 670 675
 aac ccc atg atg gta gtt atg atg cct cca ccc cca ccc cct gtc tcc 2300
 Asn Pro Met Met Val Val Met Met Pro Pro Pro Pro Pro Pro Val Ser
 680 685 690

aca gca gtg cag ccc cct ggt gcc cct cca gtc aga gac ctg ggc tcc 2348
 Thr Ala Val Gln Pro Pro Gly Ala Pro Pro Val Arg Asp Leu Gly Ser
 695 700 705
 gtg ccc cca gaa ctg aca gct agc cgt cag agc ttc cac atg gcc atg 2396
 Val Pro Pro Glu Leu Thr Ala Ser Arg Gln Ser Phe His Met Ala Met
 710 715 720 725
 ggc aac ccc agt gag ttt ttt gtg gat gtt atg tag ggacccatct 2442
 Gly Asn Pro Ser Glu Phe Phe Val Asp Val Met
 730 735
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 cagcagtgcc tggtccttcc cctcttccct cggggtaga tggggacctt tggttatitt 2622
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<210> 913

<211> 736

<212> PRT

<213> Mus musculus

<400> 913

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 Ile Tyr His Leu Asp Glu Glu Glu Thr Pro Tyr Leu Val Lys Ile Pro
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Val Pro Ala Glu Arg Ile Thr Leu Gly Asp Phe Lys Ser Val Leu Gln
 35 40 45
 Arg Pro Ala Gly Ala Lys Tyr Phe Phe Lys Ser Met Asp Gln Asp Phe
 50 55 60
 Gly Val Val Lys Glu Glu Ile Ser Asp Asp Asn Ala Arg Leu Pro Cys
 65 70 75 80
 Phe Asn Gly Arg Val Val Ser Trp Leu Val Ser Ser Asp Thr Pro Gln
 85 90 95
 Pro Glu Val Ala Pro Pro Ala His Glu Ser Arg Thr Glu Leu Val Pro
 100 105 110
 Pro Pro Pro Pro Leu Pro Pro Leu Pro Pro Glu Arg Thr Ser Gly Ile
 115 120 125
 Gly Asp Ser Arg Pro Pro Ser Phe His Pro Asn Val Ser Ser Ser His
 130 135 140
 Glu Asn Leu Glu Pro Glu Thr Glu Thr Glu Ser Val Val Ser Leu Arg
 145 150 155 160
 Arg Asp Arg Pro Arg Arg Arg Asp Ser Ser Glu His Gly Ala Gly Gly
 165 170 175
 His Arg Pro Gly Gly Pro Ser Arg Leu Glu Arg His Leu Ala Gly Tyr
 180 185 190
 Glu Ser Ser Ser Thr Leu Met Thr Ser Glu Leu Glu Ser Thr Ser Leu
 195 200 205
 Gly Asp Ser Asp Glu Asp Asp Thr Met Ser Arg Phe Ser Ser Ser Thr
 210 215 220
 Glu Gln Ser Ser Ala Ser Arg Leu Leu Lys Arg His Arg Arg Arg Arg
 225 230 235 240
 Lys Gln Arg Pro Pro Arg Met Glu Arg Thr Ser Ser Phe Ser Ser Val
 245 250 255
 Thr Asp Ser Thr Met Ser Leu Asn Ile Ile Thr Val Thr Leu Asn Met

260	265	270
Glu Lys Tyr Asn Phe Leu Gly Ile Ser Ile Val Gly Gln Ser Asn Glu		
275	280	285
Arg Gly Asp Gly Gly Ile Tyr Ile Gly Ser Ile Met Lys Gly Gly Ala		
290	295	300
Val Ala Ala Asp Gly Arg Ile Glu Pro Gly Asp Met Leu Leu Gln Val		
305	310	315
Asn Asp Met Asn Phe Glu Asn Met Ser Asn Asp Asp Ala Val Arg Val		
325	330	335
Leu Arg Asp Ile Val His Lys Pro Gly Pro Ile Val Leu Thr Val Ala		
340	345	350
Lys Cys Trp Gly Pro Ser Pro Gln Ala Tyr Phe Thr Leu Pro Arg Asn		
355	360	365
Glu Pro Ile Gln Pro Ile Asp Pro Ala Ala Trp Val Ser His Ser Ala		
370	375	380
Ala Leu Thr Gly Ala Phe Pro Ala Tyr Pro Gly Ser Ser Ser Met Ser		
385	390	395
Thr Ile Thr Ser Gly Ser Ser Leu Pro Asp Gly Cys Glu Gly Arg Gly		
405	410	415
Leu Ser Val His Met Asp Met Ala Ser Val Thr Lys Ala Met Ala Ala		
420	425	430
Pro Glu Ser Gly Leu Glu Val Arg Asp Arg Met Trp Leu Lys Ile Thr		
435	440	445
Ile Pro Asn Ala Phe Leu Gly Ser Asp Val Val Asp Trp Leu Tyr His		
450	455	460
His Val Glu Gly Phe Pro Glu Arg Arg Glu Ala Arg Lys Tyr Ala Ser		
465	470	475
Gly Leu Leu Lys Ala Gly Leu Ile Arg His Thr Val Asn Lys Ile Thr		
485	490	495

Phe Ser Glu Gln Cys Tyr Tyr Val Phe Gly Asp Leu Ser Gly Gly Cys
 500 505 510
 Glu Ser Tyr Leu Val Asn Leu Ser Leu Asn Asp Asn Asp Gly Ser Ser
 515 520 525
 Gly Ala Ser Asp Gln Asp Thr Leu Ala Pro Leu Pro Gly Ala Thr Pro
 530 535 540
 Trp Pro Leu Leu Pro Thr Phe Ser Tyr Gln Tyr Pro Ala Pro His Pro
 545 550 555 560
 Tyr Ser Pro Gln Pro Pro Pro Tyr His Glu Leu Ser Ser Tyr Thr Tyr
 565 570 575
 Gly Gly Gly Ser Ala Ser Ser Gln His Ser Glu Gly Ser Arg Ser Ser
 580 585 590
 Gly Ser Thr Arg Ser Asp Gly Gly Ala Gly Arg Thr Gly Arg Pro Glu
 595 600 605
 Glu Arg Ala Pro Glu Ser Lys Ser Gly Ser Gly Ser Glu Ser Glu Leu
 610 615 620
 Ser Ser Arg Gly Gly Ser Leu Arg Arg Gly Gly Glu Pro Gly Gly Thr
 625 630 635 640
 Gly Asp Gly Gly Pro Pro Pro Ser Arg Gly Ser Thr Gly Ala Pro Pro
 645 650 655
 Asn Leu Arg Ala Leu Pro Gly Leu His Pro Tyr Gly Ala Pro Ser Gly
 660 665 670
 Met Ala Leu Pro Tyr Asn Pro Met Met Val Val Met Met Pro Pro Pro
 675 680 685
 Pro Pro Pro Val Ser Thr Ala Val Gln Pro Pro Gly Ala Pro Pro Val
 690 695 700
 Arg Asp Leu Gly Ser Val Pro Pro Glu Leu Thr Ala Ser Arg Gln Ser
 705 710 715 720
 Phe His Met Ala Met Gly Asn Pro Ser Glu Phe Phe Val Asp Val Met

725

730

735

<210> 914

<211> 551

<212> DNA

<213> Mus musculus

<400> 914

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 cagaaacctt gaagaaatct ctctctgcc tggaggccaa agtgaaggcc cagactgcac 180
 ccaacaagga cgtgcagagg gaaattgctg acctcgggtga ggccctggcc actgcagtca 240
 tccccagtg gcagaaagat gaacaacgag agactctgaa gtccctgaag aaagtcaitg 300
 atgacctaga ccgggccagc aaagccgatg tgcagaagcg agtggttagag aagacaaagc 360
 agctgattga cagcaacccc aaccagccgc tggtcctcct ggagatggag agtggagcat 420
 cggccaaggc cctgaatgaa gcgttgaagc ttttcaagac gcattctcct tagacatctg 480
 ccatgctggt cacggtggac aattaagctt gcaagattca ctggcttttc caggtttccc 540
 agaatgcagc a

551

<210> 915

<211> 388

<212> DNA

<213> Mus musculus

<400> 915

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 gtccaaaggg gtgtactgct gtttgggcca ccaggcacia ggcaagacaa ctctgtgcct 180
 aggaagtigc caatcggact gatgcttgc tcaatcgagt tattgggtct gagctcgtac 240

agaaatacgt cggcgaggga actcgaatgt ttcgtgaggc ttttgaaatg gcaggacaaa 300
 aaaagcctgc gctatttcct tgatgaaatg atgccatgga aggggtccgt tgacgattgc 360
 gctgggggtga caatgagtg agagaaca 388

<210> 916

<211> 1045

<212> DNA

<213> Mus musculus

<400> 916

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 cggcggacga gccgcggcct cggaaaggcg gtcgagtcac cgctcccaag aaggcgcgcg 120
 ttgttcagca gcagaagttg aagaagagcc tgggaagtggg aatccggaag aagattgagc 180
 atgacgtggt aatgaaggcc agctccagcc tgcctaagag gcttgactg ctgaaggag 240
 catcaaagaa atcagaagcc accatccctg gcaagacacc atcctgaagg cactgggact 300
 ttgctgggtca cccacaggct ggctggactt ggaagaggcg cctgctcagt cctgggtggc 360
 ctggaacgat tgggcagtga ttgtaagcca ggctagctcc aagggtgaa ggggtgctcag 420
 ctcgtctctt gtgtgatgat aattgtgctc cgatgtctct cagcgtcatt ggcatatcta 480
 cccaagtctt ggtccaacca gcaattatgc agctgctaac attatcaagc attgggtacc 540
 atgttccata aagttgtccg ggaaaaagaa aaaaatgggg gagttatcct aggtagtaat 600
 accttgaagc gcgttaactg taatgacact ggctgattat cttcgatcgt tcaatgtata 660
 gaactcacgt ctctaattca tatgatcgg ttacatacgg gtttggtcga cgtaatacct 720
 cgggttcgtc ttttcgggtgc tcaaaaggct tgtctttttt ccccaaattt ggggggtgtgc 780
 cgggaagggtc gtggtattct agacacgttg ttctgggaaa aaaaagaaag ggggtatatt 840
 aaaaaacttc agcgggcccc cggacgagan nnnnnnnnnn nnnnngngn ngnngngggg 900
 gggggggggg gggggggggg gggggggggg gggggggggg ggggnggggg gggggggggg 960
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<210> 917

<211> 2702

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (98).. (2443)

<400> 917

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                                Met Ala Thr Gln Ala Asp
                                1           5
ctg atg gag ttg gac atg gcc atg gag ccg gac aga aaa gct gct gtc 163
Leu Met Glu Leu Asp Met Ala Met Glu Pro Asp Arg Lys Ala Ala Val
                10           15           20
agc cac tgg cag cag cag tct tac ttg gat tct gga atc cat tct ggt 211
Ser His Trp Gln Gln Gln Ser Tyr Leu Asp Ser Gly Ile His Ser Gly
                25           30           35
gcc acc acc aca gct cct tcc ctg agt ggc aag ggc aac cct gag gaa 259
Ala Thr Thr Thr Ala Pro Ser Leu Ser Gly Lys Gly Asn Pro Glu Glu
                40           45           50
gaa gat gtt gac acc tcc caa gtc ctt tat gaa tgg gag caa ggc ttt 307
Glu Asp Val Asp Thr Ser Gln Val Leu Tyr Glu Trp Glu Gln Gly Phe
                55           60           65           70
tcc cag tcc ttc acg caa gag caa gta gct gat att gac ggg cag tat 355
Ser Gln Ser Phe Thr Gln Glu Gln Val Ala Asp Ile Asp Gly Gln Tyr
                75           80           85

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gca atg act agg gct cag agg gtc cga gct gcc atg ttc cct gag acg 403
 Ala Met Thr Arg Ala Gln Arg Val Arg Ala Ala Met Phe Pro Glu Thr
 90 95 100
 cta gat gag ggc atg cag atc cca tcc acg cag ttt gac gct gct cat 451
 Leu Asp Glu Gly Met Gln Ile Pro Ser Thr Gln Phe Asp Ala Ala His
 105 110 115
 ccc act aat gtc cag cgc ttg gct gaa cca tca cag atg ttg aaa cat 499
 Pro Thr Asn Val Gln Arg Leu Ala Glu Pro Ser Gln Met Leu Lys His
 120 125 130
 gca gtt gtc aat ttg att aac tat cag gat gac gcg gaa ctt gcc aca 547
 Ala Val Val Asn Leu Ile Asn Tyr Gln Asp Asp Ala Glu Leu Ala Thr
 135 140 145 150
 cgt gca att cct gag ctg aca aaa ctg cta aac gat gag gac cag gtg 595
 Arg Ala Ile Pro Glu Leu Thr Lys Leu Leu Asn Asp Glu Asp Gln Val
 155 160 165
 gta gtt aat aaa gct gct gtt atg gtc cat cag ctt tcc aaa aag gaa 643
 Val Val Asn Lys Ala Ala Val Met Val His Gln Leu Ser Lys Lys Glu
 170 175 180
 gct tcc aga cat gcc atc atg cgc tcc cct cag atg gtg tct gcc att 691
 Ala Ser Arg His Ala Ile Met Arg Ser Pro Gln Met Val Ser Ala Ile
 185 190 195
 gta cgc acc atg cag aat aca aat gat gta gag aca gct cgt tgt act 739
 Val Arg Thr Met Gln Asn Thr Asn Asp Val Glu Thr Ala Arg Cys Thr
 200 205 210
 gct ggg acc ctt cac aac ctt tct cac cac cgc gag ggc ttg ctg gcc 787
 Ala Gly Thr Leu His Asn Leu Ser His His Arg Glu Gly Leu Leu Ala
 215 220 225 230
 atc ttt aag tct ggt ggc atc cca gcg ctg gtg aaa atg ctt ggg tca 835
 Ile Phe Lys Ser Gly Gly Ile Pro Ala Leu Val Lys Met Leu Gly Ser

235	240	245	
cca gtg gat tct gta ctg ttc tac gcc atc acg aca ctg cat aat ctc			883
Pro Val Asp Ser Val Leu Phe Tyr Ala Ile Thr Thr Leu His Asn Leu			
250	255	260	
ctg ctc cat cag gaa gga gct aaa atg gca gtg cgc cta gct ggt gga			931
Leu Leu His Gln Glu Gly Ala Lys Met Ala Val Arg Leu Ala Gly Gly			
265	270	275	
ctg cag aaa atg gtt gct ttg ctc aac aaa aca aac gtg aaa ttc ttg			979
Leu Gln Lys Met Val Ala Leu Leu Asn Lys Thr Asn Val Lys Phe Leu			
280	285	290	
gct att aca aca gac tgc ctt cag atc tta gct tat ggc aat caa gag			1027
Ala Ile Thr Thr Asp Cys Leu Gln Ile Leu Ala Tyr Gly Asn Gln Glu			
295	300	305	310
agc aag ctc atc att ctg gcc agt ggt gga ccc caa gcc tta gta aac			1075
Ser Lys Leu Ile Ile Leu Ala Ser Gly Gly Pro Gln Ala Leu Val Asn			
315	320	325	
ata atg agg acc tac act tat gag aag ctt ctg tgg acc aca agc aga			1123
Ile Met Arg Thr Tyr Thr Tyr Glu Lys Leu Leu Trp Thr Thr Ser Arg			
330	335	340	
gtg ctg aaa gtg ctg tct gtc tgc tct agc aac aag ccg gcc att gta			1171
Val Leu Lys Val Leu Ser Val Cys Ser Ser Asn Lys Pro Ala Ile Val			
345	350	355	
gaa gct ggt ggg atg cag gca ctg ggg ctt cat ctg aca gac cca agt			1219
Glu Ala Gly Gly Met Gln Ala Leu Gly Leu His Leu Thr Asp Pro Ser			
360	365	370	
cag cga ctt gtt caa aac tgt ctt tgg act ctc aga aac ctt tca gat			1267
Gln Arg Leu Val Gln Asn Cys Leu Trp Thr Leu Arg Asn Leu Ser Asp			
375	380	385	390
gca gcg act aag cag gaa ggg atg gaa ggc ctc ctt ggg act cta gtg			1315

Ala Ala Thr Lys Gln Glu Gly Met Glu Gly Leu Leu Gly Thr Leu Val	
395	400
cag ctt ctg ggt tcc gat gat ata aat gtg gtc acc tgt gca gct gga	1363
Gln Leu Leu Gly Ser Asp Asp Ile Asn Val Val Thr Cys Ala Ala Gly	
410	415
att ctc tct aac ctc act tgc aat aat tac aaa aac aag atg atg gtg	1411
Ile Leu Ser Asn Leu Thr Cys Asn Asn Tyr Lys Asn Lys Met Met Val	
425	430
tgc caa gtg ggt ggc ata gag gct ctt gta cgc acc gtc ctt cgt gct	1459
Cys Gln Val Gly Gly Ile Glu Ala Leu Val Arg Thr Val Leu Arg Ala	
440	445
ggt gac agg gaa gac atc act gag cct gcc atc tgt gct ctt cgt cat	1507
Gly Asp Arg Glu Asp Ile Thr Glu Pro Ala Ile Cys Ala Leu Arg His	
455	460
ctg acc agc cgg cat cag gaa gcc gag atg gcc cag aat gcc gtt cgc	1555
Leu Thr Ser Arg His Gln Glu Ala Glu Met Ala Gln Asn Ala Val Arg	
475	480
ctt cat tat gga ctg cct gtt gtg gtt aaa ctc ctg cac cca cca tcc	1603
Leu His Tyr Gly Leu Pro Val Val Val Lys Leu Leu His Pro Pro Ser	
490	495
cac tgg cct ctg ata aag gca act gtt gga ttg att cga aac ctt gcc	1651
His Trp Pro Leu Ile Lys Ala Thr Val Gly Leu Ile Arg Asn Leu Ala	
505	510
ctt tgc cca gca aat cat gcg cct ttg cgg gaa cag ggt gct att cca	1699
Leu Cys Pro Ala Asn His Ala Pro Leu Arg Glu Gln Gly Ala Ile Pro	
520	525
cga cta gtt cag ctg ctt gta cga gca cat cag gac acc caa cgg cgc	1747
Arg Leu Val Gln Leu Leu Val Arg Ala His Gln Asp Thr Gln Arg Arg	
535	540
	545
	550

acc tcc atg ggt gga acg cag cag cag ttt gtg gag ggc gtg cgc atg 1795
 Thr Ser Met Gly Gly Thr Gln Gln Gln Phe Val Glu Gly Val Arg Met
 555 560 565
 gag gaa ata gtc gaa ggg tgt act gga gct ctc cac atc ctt gct cgg 1843
 Glu Glu Ile Val Glu Gly Cys Thr Gly Ala Leu His Ile Leu Ala Arg
 570 575 580
 gac gtt cac aac cgg att gta atc cga gga ctc aat acc att cca ttg 1891
 Asp Val His Asn Arg Ile Val Ile Arg Gly Leu Asn Thr Ile Pro Leu
 585 590 595
 ttt gtg cag ttg ctt tat tct ccc att gaa aat atc caa aga gta gct 1939
 Phe Val Gln Leu Leu Tyr Ser Pro Ile Glu Asn Ile Gln Arg Val Ala
 600 605 610
 gca ggg gtc ctc tgt gaa ctt gct cag gac aag gag gct gca gag gcc 1987
 Ala Gly Val Leu Cys Glu Leu Ala Gln Asp Lys Glu Ala Ala Glu Ala
 615 620 625 630
 att gaa gct gag gga gcc aca gct ccc ctg aca gag tta ctc cac tcc 2035
 Ile Glu Ala Glu Gly Ala Thr Ala Pro Leu Thr Glu Leu Leu His Ser
 635 640 645
 agg aat gaa ggc gtg gca aca tac gca gct gct gtc cta ttc cga atg 2083
 Arg Asn Glu Gly Val Ala Thr Tyr Ala Ala Ala Val Leu Phe Arg Met
 650 655 660
 tct gag gac aag cca cag gat tac aag aag cgg ctt tca gtc gag ctg 2131
 Ser Glu Asp Lys Pro Gln Asp Tyr Lys Lys Arg Leu Ser Val Glu Leu
 665 670 675
 acc agt tcc ctc ttc agg aca gag cca atg gct tgg aat gag act gca 2179
 Thr Ser Ser Leu Phe Arg Thr Glu Pro Met Ala Trp Asn Glu Thr Ala
 680 685 690
 gat ctt gga ctg gac att ggt gcc cag gga gaa gcc ctt gga tat cgc 2227
 Asp Leu Gly Leu Asp Ile Gly Ala Gln Gly Glu Ala Leu Gly Tyr Arg

695	700	705	710	
cag gat gat ccc agc tac cgt tct ttt cac tct ggt gga tac ggc cag	2275			
Gln Asp Asp Pro Ser Tyr Arg Ser Phe His Ser Gly Gly Tyr Gly Gln				
	715	720	725	
gat gcc ttg ggg atg gac cct atg atg gag cat gag atg ggt ggc cac	2323			
Asp Ala Leu Gly Met Asp Pro Met Met Glu His Glu Met Gly Gly His				
	730	735	740	
cac cct ggt gct gac tat cca gtt gat ggg ctg cct gat ctg gga cac	2371			
His Pro Gly Ala Asp Tyr Pro Val Asp Gly Leu Pro Asp Leu Gly His				
	745	750	755	
gcc cag gac ctc atg gat ggg ctg ccc cca ggt gat agc aat cag ctg	2419			
Ala Gln Asp Leu Met Asp Gly Leu Pro Pro Gly Asp Ser Asn Gln Leu				
	760	765	770	
gcc tgg ttt gat act gac ctg taa atcgtcctta gtaagaaagc ttataaaagc	2473			
Ala Trp Phe Asp Thr Asp Leu				
775	780			
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tcatgtgtgg aagttttctca cgttgatgtt ttgcccacag cttttgcagc gttatactca	2653			
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<211> 781

<212> PRT

<213> Mus musculus

<400> 918

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 Lys Gly Asn Pro Glu Glu Glu Asp Val Asp Thr Ser Gln Val Leu Tyr
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 Glu Trp Glu Gln Gly Phe Ser Gln Ser Phe Thr Gln Glu Gln Val Ala
 65 70 75 80
 Asp Ile Asp Gly Gln Tyr Ala Met Thr Arg Ala Gln Arg Val Arg Ala
 85 90 95
 Ala Met Phe Pro Glu Thr Leu Asp Glu Gly Met Gln Ile Pro Ser Thr
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 Gln Phe Asp Ala Ala His Pro Thr Asn Val Gln Arg Leu Ala Glu Pro
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 Ser Gln Met Leu Lys His Ala Val Val Asn Leu Ile Asn Tyr Gln Asp
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 Asp Ala Glu Leu Ala Thr Arg Ala Ile Pro Glu Leu Thr Lys Leu Leu
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 Asn Asp Glu Asp Gln Val Val Val Asn Lys Ala Ala Val Met Val His
 165 170 175
 Gln Leu Ser Lys Lys Glu Ala Ser Arg His Ala Ile Met Arg Ser Pro
 180 185 190
 Gln Met Val Ser Ala Ile Val Arg Thr Met Gln Asn Thr Asn Asp Val
 195 200 205
 Glu Thr Ala Arg Cys Thr Ala Gly Thr Leu His Asn Leu Ser His His
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 Arg Glu Gly Leu Leu Ala Ile Phe Lys Ser Gly Gly Ile Pro Ala Leu
 225 230 235 240
 Val Lys Met Leu Gly Ser Pro Val Asp Ser Val Leu Phe Tyr Ala Ile

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Thr Thr Leu His Asn Leu Leu Leu His Gln Glu Gly Ala Lys Met Ala			
	260	265	270
Val Arg Leu Ala Gly Gly Leu Gln Lys Met Val Ala Leu Leu Asn Lys			
	275	280	285
Thr Asn Val Lys Phe Leu Ala Ile Thr Thr Asp Cys Leu Gln Ile Leu			
	290	295	300
Ala Tyr Gly Asn Gln Glu Ser Lys Leu Ile Ile Leu Ala Ser Gly Gly			
305	310	315	320
Pro Gln Ala Leu Val Asn Ile Met Arg Thr Tyr Thr Tyr Glu Lys Leu			
	325	330	335
Leu Trp Thr Thr Ser Arg Val Leu Lys Val Leu Ser Val Cys Ser Ser			
	340	345	350
Asn Lys Pro Ala Ile Val Glu Ala Gly Gly Met Gln Ala Leu Gly Leu			
	355	360	365
His Leu Thr Asp Pro Ser Gln Arg Leu Val Gln Asn Cys Leu Trp Thr			
	370	375	380
Leu Arg Asn Leu Ser Asp Ala Ala Thr Lys Gln Glu Gly Met Glu Gly			
385	390	395	400
Leu Leu Gly Thr Leu Val Gln Leu Leu Gly Ser Asp Asp Ile Asn Val			
	405	410	415
Val Thr Cys Ala Ala Gly Ile Leu Ser Asn Leu Thr Cys Asn Asn Tyr			
	420	425	430
Lys Asn Lys Met Met Val Cys Gln Val Gly Gly Ile Glu Ala Leu Val			
	435	440	445
Arg Thr Val Leu Arg Ala Gly Asp Arg Glu Asp Ile Thr Glu Pro Ala			
	450	455	460
Ile Cys Ala Leu Arg His Leu Thr Ser Arg His Gln Glu Ala Glu Met			
465	470	475	480

Ala Gln Asn Ala Val Arg Leu His Tyr Gly Leu Pro Val Val Val Lys
 485 490 495
 Leu Leu His Pro Pro Ser His Trp Pro Leu Ile Lys Ala Thr Val Gly
 500 505 510
 Leu Ile Arg Asn Leu Ala Leu Cys Pro Ala Asn His Ala Pro Leu Arg
 515 520 525
 Glu Gln Gly Ala Ile Pro Arg Leu Val Gln Leu Leu Val Arg Ala His
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 Gln Asp Thr Gln Arg Arg Thr Ser Met Gly Gly Thr Gln Gln Gln Phe
 545 550 555 560
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 Leu His Ile Leu Ala Arg Asp Val His Asn Arg Ile Val Ile Arg Gly
 580 585 590
 Leu Asn Thr Ile Pro Leu Phe Val Gln Leu Leu Tyr Ser Pro Ile Glu
 595 600 605
 Asn Ile Gln Arg Val Ala Ala Gly Val Leu Cys Glu Leu Ala Gln Asp
 610 615 620
 Lys Glu Ala Ala Glu Ala Ile Glu Ala Glu Gly Ala Thr Ala Pro Leu
 625 630 635 640
 Thr Glu Leu Leu His Ser Arg Asn Glu Gly Val Ala Thr Tyr Ala Ala
 645 650 655
 Ala Val Leu Phe Arg Met Ser Glu Asp Lys Pro Gln Asp Tyr Lys Lys
 660 665 670
 Arg Leu Ser Val Glu Leu Thr Ser Ser Leu Phe Arg Thr Glu Pro Met
 675 680 685
 Ala Trp Asn Glu Thr Ala Asp Leu Gly Leu Asp Ile Gly Ala Gln Gly
 690 695 700
 Glu Ala Leu Gly Tyr Arg Gln Asp Asp Pro Ser Tyr Arg Ser Phe His

705 710 715 720
 Ser Gly Gly Tyr Gly Gln Asp Ala Leu Gly Met Asp Pro Met Met Glu
 725 730 735
 His Glu Met Gly Gly His His Pro Gly Ala Asp Tyr Pro Val Asp Gly
 740 745 750
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<211> 600

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (69).. (362)

<400> 919

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 Met Pro Ser Gln Met Glu His Ala Met Glu Thr Met Met Leu
 1 5 10
 acg ttt cac agg ttt gca ggc gac aaa gac cac ttg aca aag gag gac 158
 Thr Phe His Arg Phe Ala Gly Asp Lys Asp His Leu Thr Lys Glu Asp
 15 20 25 30
 ctg aga gtg ctc atg gaa cgg gag ttc cct ggg ttt ttg gaa aat caa 206
 Leu Arg Val Leu Met Glu Arg Glu Phe Pro Gly Phe Leu Glu Asn Gln

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Lys Asp Pro Leu Ala Val Asp Lys Ile Met Lys Asp Leu Asp Gln Cys				
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cga gat ggc aaa gtg ggc ttc cag agc ttt cta tca cta gtg gcg ggg				302
Arg Asp Gly Lys Val Gly Phe Gln Ser Phe Leu Ser Leu Val Ala Gly				
	65	70	75	
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Leu Thr Ile Ala Cys Asn Asp Tyr Phe Val Val Asn Met Lys Gln Lys				
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Gly Lys Lys				
95				
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<211> 97

<212> PRT

<213> Mus musculus

<400> 920

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			20					25					30		
Val	Leu	Met	Glu	Arg	Glu	Phe	Pro	Gly	Phe	Leu	Glu	Asn	Gln	Lys	Asp

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<211> 439

<212> DNA

<213> Mus musculus

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<211> 1045

<212> DNA

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<222> (1).. (675)

<400> 922

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      1              5              10              15
ctg gca gtc agt ggg aac tat tgc acc gac aag aag cct gct gcc ata      96
Leu Ala Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro Ala Ala Ile
              20              25              30
aat tgg atc gaa gga cga gga aag act gtg gtt tgt gaa gcc gtc att      144
Asn Trp Ile Glu Gly Arg Gly Lys Thr Val Val Cys Glu Ala Val Ile
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cca gcc aag gtg gtg aga gag gtg tta aag aca act acg gaa gct atg      192
Pro Ala Lys Val Val Arg Glu Val Leu Lys Thr Thr Thr Glu Ala Met
              50              55              60
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Val Asp Val Asn Ile Asn Lys Asn Leu Val Gly Ser Ala Met Ala Gly
      65              70              75              80
agc ata ggc ggc tac aac gcc cac gca gca aac att gtc act gct atc      288
Ser Ile Gly Gly Tyr Asn Ala His Ala Ala Asn Ile Val Thr Ala Ile
              85              90              95
tac atc gca tgt ggc cag gat gca gca cag aat gtg ggg agt tca aac      336
Tyr Ile Ala Cys Gly Gln Asp Ala Ala Gln Asn Val Gly Ser Ser Asn
              100              105              110
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Cys Ile Thr Leu Met Glu Ala Ser Gly Pro Thr Asn Glu Asp Leu Tyr
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<211> 224

<212> PRT

<213> Mus musculus

<400> 923

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<211> 4270

<212> DNA

<213> Mus musculus

<400> 924

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<212> DNA

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<222> (150).. (1103)

<400> 927

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Met Arg Ala Gly Arg Gly Gly Val

1

5

ccg ggg agc ggc ggc ctg agg gcc ccg ccg ccg ctg ctg ctg ctg ctg 221

Pro Gly Ser Gly Gly Leu Arg Ala Pro Pro Pro Leu Leu Leu Leu Leu

10

15

20

ctg gcg atg ctg ccc gcc gcc gcc ccg cgg tcc ccg gcc ctg gcc gcc 269

Leu Ala Met Leu Pro Ala Ala Ala Pro Arg Ser Pro Ala Leu Ala Ala

25

30

35

40

gct cct gcg gga ccc agc gtg agc ctc tac ctg agc gag gac gag gtg 317

Ala Pro Ala Gly Pro Ser Val Ser Leu Tyr Leu Ser Glu Asp Glu Val

45

50

55

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 75 80 85
 aca aac ttc ctg cac ttc act tgg cat gca aag tcc aag gtt gaa tat 461
 Thr Asn Phe Leu His Phe Thr Trp His Ala Lys Ser Lys Val Glu Tyr
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 Lys Leu Gly Phe Gln Val Asp Asn Phe Val Ala Met Gly Met Pro Gln
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Gln Tyr Leu Arg Ala Asp Thr Pro Asn Asn Ala Thr Pro Ile Thr Ser			
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905

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35

40

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50

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60

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65

70

75

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Gly Pro Pro Gly Ala Ala Gly Tyr Pro Gly Asn Pro Gly Leu Pro Gly	
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Ile Pro Gly Gln Asp Gly Pro Pro Gly Pro Pro Gly Ile Pro Gly Cys	
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 Gln Lys Gly Glu Thr Gly Pro Phe Gly Pro Pro Gly Pro Arg Gly Phe
 1410 1415 1420
 cct ggc cca cca ggc ccc gat ggg ctg cca gga tcc atg ggt ccc cca 4442
 Pro Gly Pro Pro Gly Pro Asp Gly Leu Pro Gly Ser Met Gly Pro Pro
 1425 1430 1435
 ggt acc cca tct gtg gac cat ggc ttc ctt gtg acc agg cat agt cag 4490
 Gly Thr Pro Ser Val Asp His Gly Phe Leu Val Thr Arg His Ser Gln
 1440 1445 1450
 aca aca gat gac cca ctg tgt ccc cca ggg acc aaa att ctt tac cat 4538
 Thr Thr Asp Asp Pro Leu Cys Pro Pro Gly Thr Lys Ile Leu Tyr His
 1455 1460 1465

gga tac tct ctg ctc tat gtc caa ggc aac gag cgt gcc cac ggg cag 4586
 Gly Tyr Ser Leu Leu Tyr Val Gln Gly Asn Glu Arg Ala His Gly Gln
 1470 1475 1480 1485
 gac ttg ggt acg gct ggc agc tgc ctg cgt aag ttc agc acc atg ccc 4634
 Asp Leu Gly Thr Ala Gly Ser Cys Leu Arg Lys Phe Ser Thr Met Pro
 1490 1495 1500
 ttt ctc ttc tgc aac atc aac aac gtc tgc aac ttc gcc tcc agg aac 4682
 Phe Leu Phe Cys Asn Ile Asn Asn Val Cys Asn Phe Ala Ser Arg Asn
 1505 1510 1515
 gac tac tct tac tgg ctg tcc acg cca gag ccc atg ccc atg tcc atg 4730
 Asp Tyr Ser Tyr Trp Leu Ser Thr Pro Glu Pro Met Pro Met Ser Met
 1520 1525 1530
 gca ccc atc tct ggg gac aac atc cgg ccc ttc att agc agg tgt gcg 4778
 Ala Pro Ile Ser Gly Asp Asn Ile Arg Pro Phe Ile Ser Arg Cys Ala
 1535 1540 1545
 gtt tgt gaa gca ccg gcc atg gtg atg gcg gta cac agt cag acc att 4826
 Val Cys Glu Ala Pro Ala Met Val Met Ala Val His Ser Gln Thr Ile
 1550 1555 1560 1565
 cag att ccg cag tgc cct aac ggt tgg tcc tca ctg tgg atc ggc tat 4874
 Gln Ile Pro Gln Cys Pro Asn Gly Trp Ser Ser Leu Trp Ile Gly Tyr
 1570 1575 1580
 tcc ttc gtg atg cac acc agc gct ggt gct gaa ggt tcc ggc caa gcc 4922
 Ser Phe Val Met His Thr Ser Ala Gly Ala Glu Gly Ser Gly Gln Ala
 1585 1590 1595
 ctc gca tcc ccc ggg tcc tgt ctg gaa gag ttt aga agc gcc cca ttc 4970
 Leu Ala Ser Pro Gly Ser Cys Leu Glu Glu Phe Arg Ser Ala Pro Phe
 1600 1605 1610
 atc gag tgc cac ggc aga gga acg tgc aat tac tac gca aat gct tac 5018
 Ile Glu Cys His Gly Arg Gly Thr Cys Asn Tyr Tyr Ala Asn Ala Tyr

1615	1620	1625	
agc ttt tgg ctc gcc acc ata gag aga agc gag atg ttc aag aag ccc			5066
Ser Phe Trp Leu Ala Thr Ile Glu Arg Ser Glu Met Phe Lys Lys Pro			
1630	1635	1640	1645
acg cca tcc acc ttg aag gca ggg gag ctg cga aca cac gtc agc cgc			5114
Thr Pro Ser Thr Leu Lys Ala Gly Glu Leu Arg Thr His Val Ser Arg			
1650	1655	1660	
tgc caa gtg tgc atg aga aga aca taa ctatgatgct cgcctctgcc			5161
Cys Gln Val Cys Met Arg Arg Thr			
1665	1670		
accgtcaciaa catggtgcta ctccccccc ttgtcctctt ctccctccca ttgtatttgt			5221
aacagcaatg aaccctagaa ttatatcttg tgtacctcac tgtccactat gaaaaccata			5281
aagtgcctta tagggattcg cgtaactaac acaccccgct tcgttggcct ctgtttgctg			5341
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ccataagaaa cccaaagggtg ctaggggcgt gaggcgctct ccacacagcc cacagccgc			5521
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cctgagcaca cacaggcaac ticcagctc ctctcgagct gtgacacagc cccctgcagg			6241
gagtggacag gtcgcaggag ggcagactcg gaccactatg cttgaagtga catttacta			6301

aaagtaCcca cccTcCaAAA aaaaaaaaaa aagTtttttaa gactactaag gccttctgtg 6361
 taatttcttt aaatgtgtat ttcttaagaa ttcaaatttg taataaaact atttgtataa 6421
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<210> 933

<211> 1669

<212> PRT

<213> Mus musculus

<400> 933

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 Gly Ser Gly Cys Gly Lys Cys Asp Cys His Gly Val Lys Gly Gln Lys
 35 40 45
 Gly Glu Arg Gly Leu Pro Gly Leu Gln Gly Val Ile Gly Phe Pro Gly
 50 55 60
 Met Gln Gly Pro Glu Gly Pro His Gly Pro Pro Gly Gln Lys Gly Asp
 65 70 75 80
 Ala Gly Glu Pro Gly Leu Pro Gly Thr Lys Gly Thr Arg Gly Pro Pro
 85 90 95
 Gly Ala Ala Gly Tyr Pro Gly Asn Pro Gly Leu Pro Gly Ile Pro Gly
 100 105 110
 Gln Asp Gly Pro Pro Gly Pro Pro Gly Ile Pro Gly Cys Asn Gly Thr
 115 120 125
 Lys Gly Glu Arg Gly Pro Leu Gly Pro Pro Gly Leu Pro Gly Phe Ser
 130 135 140

Gly Asn Pro Gly Pro Pro Gly Leu Pro Gly Met Lys Gly Asp Pro Gly
 145 150 155 160
 Glu Ile Leu Gly His Val Pro Gly Thr Leu Leu Lys Gly Glu Arg Gly
 165 170 175
 Phe Pro Gly Ile Pro Gly Met Pro Gly Ser Pro Gly Leu Pro Gly Leu
 180 185 190
 Gln Gly Pro Val Gly Pro Pro Gly Phe Thr Gly Pro Pro Gly Pro Pro
 195 200 205
 Gly Pro Pro Gly Pro Pro Gly Glu Lys Gly Gln Met Gly Ser Ser Phe
 210 215 220
 Gln Gly Pro Lys Gly Asp Lys Gly Glu Gln Gly Val Ser Gly Pro Pro
 225 230 235 240
 Gly Val Pro Gly Gln Ala Gln Val Lys Glu Lys Gly Asp Phe Ala Pro
 245 250 255
 Thr Gly Glu Lys Gly Gln Lys Gly Glu Pro Gly Phe Pro Gly Val Pro
 260 265 270
 Gly Tyr Gly Glu Lys Gly Glu Pro Gly Lys Gln Gly Pro Arg Gly Lys
 275 280 285
 Pro Gly Lys Asp Gly Glu Lys Gly Glu Arg Gly Ser Pro Gly Ile Pro
 290 295 300
 Gly Asp Ser Gly Tyr Pro Gly Leu Pro Gly Arg Gln Gly Pro Gln Gly
 305 310 315 320
 Glu Lys Gly Glu Ala Gly Leu Pro Gly Pro Pro Gly Thr Val Ile Gly
 325 330 335
 Thr Met Pro Leu Gly Glu Lys Gly Asp Arg Gly Tyr Pro Gly Ala Pro
 340 345 350
 Gly Leu Arg Gly Glu Pro Gly Pro Lys Gly Phe Pro Gly Thr Pro Gly
 355 360 365
 Gln Pro Gly Pro Pro Gly Phe Pro Thr Pro Gly Gln Ala Gly Ala Pro

370	375	380
Gly Phe Pro Gly Glu Arg Gly Glu Lys Gly Asp Gln Gly Phe Pro Gly		
385	390	395
Val Ser Leu Pro Gly Pro Ser Gly Arg Asp Gly Ala Pro Gly Pro Pro		400
405	410	415
Gly Pro Pro Gly Pro Pro Gly Gln Pro Gly His Thr Asn Gly Ile Val		
420	425	430
Glu Cys Gln Pro Gly Pro Pro Gly Asp Gln Gly Pro Pro Gly Thr Pro		
435	440	445
Gly Gln Pro Gly Leu Thr Gly Glu Val Gly Gln Lys Gly Gln Lys Gly		
450	455	460
Glu Ser Cys Leu Ala Cys Asp Thr Glu Gly Leu Arg Gly Pro Pro Gly		
465	470	475
Pro Gln Gly Pro Pro Gly Glu Ile Gly Phe Pro Gly Gln Pro Gly Ala		
485	490	495
Lys Gly Asp Arg Gly Leu Pro Gly Arg Asp Gly Leu Glu Gly Leu Pro		
500	505	510
Gly Pro Gln Gly Ser Pro Gly Leu Ile Gly Gln Pro Gly Ala Lys Gly		
515	520	525
Glu Pro Gly Glu Ile Phe Phe Asp Met Arg Leu Lys Gly Asp Lys Gly		
530	535	540
Asp Pro Gly Phe Pro Gly Gln Pro Gly Met Pro Gly Arg Ala Gly Thr		
545	550	555
Pro Gly Arg Asp Gly His Pro Gly Leu Pro Gly Pro Lys Gly Ser Pro		
565	570	575
Gly Ser Ile Gly Leu Lys Gly Glu Arg Gly Pro Pro Gly Gly Val Gly		
580	585	590
Phe Pro Gly Ser Arg Gly Asp Ile Gly Pro Pro Gly Pro Pro Gly Val		
595	600	605

Gly Pro Ile Gly Pro Val Gly Glu Lys Gly Gln Ala Gly Phe Pro Gly
 610 615 620
 Gly Pro Gly Ser Pro Gly Leu Pro Gly Pro Lys Gly Glu Ala Gly Lys
 625 630 635 640
 Val Val Pro Leu Pro Gly Pro Pro Gly Ala Ala Gly Leu Pro Gly Ser
 645 650 655
 Pro Gly Phe Pro Gly Pro Gln Gly Asp Arg Gly Phe Pro Gly Thr Pro
 660 665 670
 Gly Arg Pro Gly Ile Pro Gly Glu Lys Gly Ala Val Gly Gln Pro Gly
 675 680 685
 Ile Gly Phe Pro Gly Leu Pro Gly Pro Lys Gly Val Asp Gly Leu Pro
 690 695 700
 Gly Glu Ile Gly Arg Pro Gly Ser Pro Gly Arg Pro Gly Phe Asn Gly
 705 710 715 720
 Leu Pro Gly Asn Pro Gly Pro Gln Gly Gln Lys Gly Glu Pro Gly Ile
 725 730 735
 Gly Leu Pro Gly Leu Lys Gly Gln Pro Gly Leu Pro Gly Ile Pro Gly
 740 745 750
 Thr Pro Gly Glu Lys Gly Ser Ile Gly Gly Pro Gly Val Pro Gly Glu
 755 760 765
 Gln Gly Leu Thr Gly Pro Pro Gly Leu Gln Gly Ile Arg Gly Asp Pro
 770 775 780
 Gly Pro Pro Gly Val Gln Gly Pro Ala Gly Pro Pro Gly Val Pro Gly
 785 790 795 800
 Ile Gly Pro Pro Gly Ala Met Gly Pro Pro Gly Gly Glu Gly Pro Pro
 805 810 815
 Gly Ser Ser Gly Pro Pro Gly Ile Lys Gly Glu Lys Gly Phe Pro Gly
 820 825 830
 Phe Pro Gly Leu Asp Met Pro Gly Pro Lys Gly Asp Lys Gly Ser Gln

835	840	845
Gly Leu Pro Gly Leu Thr Gly Gln Ser Gly Leu Pro Gly Leu Pro Gly		
850	855	860
Gln Gln Gly Thr Pro Gly Val Pro Gly Phe Pro Gly Ser Lys Gly Glu		
865	870	875
Met Gly Val Met Gly Thr Pro Gly Gln Pro Gly Ser Pro Gly Pro Ala		880
885	890	895
Gly Thr Pro Gly Leu Pro Gly Glu Lys Gly Asp His Gly Leu Pro Gly		
900	905	910
Ser Ser Gly Pro Arg Gly Asp Pro Gly Phe Lys Gly Asp Lys Gly Asp		
915	920	925
Val Gly Leu Pro Gly Met Pro Gly Ser Met Glu His Val Asp Met Gly		
930	935	940
Ser Met Lys Gly Gln Lys Gly Asp Gln Gly Glu Lys Gly Gln Ile Gly		
945	950	955
Pro Thr Gly Asp Lys Gly Ser Arg Gly Asp Pro Gly Thr Pro Gly Val		960
965	970	975
Pro Gly Lys Asp Gly Gln Ala Gly His Pro Gly Gln Pro Gly Pro Lys		
980	985	990
Gly Asp Pro Gly Leu Ser Gly Thr Pro Gly Ser Pro Gly Leu Pro Gly		
995	1000	1005
Pro Lys Gly Ser Val Gly Gly Met Gly Leu Pro Gly Ser Pro Gly Glu		
1010	1015	1020
Lys Gly Val Pro Gly Ile Pro Gly Ser Gln Gly Val Pro Gly Ser Pro		
025	1030	1035
Gly Glu Lys Gly Ala Lys Gly Glu Lys Gly Gln Ser Gly Leu Pro Gly		1040
1045	1050	1055
Ile Gly Ile Pro Gly Arg Pro Gly Asp Lys Gly Asp Gln Gly Leu Ala		
1060	1065	1070

Gly Phe Pro Gly Ser Pro Gly Glu Lys Gly Glu Lys Gly Ser Ala Gly
 1075 1080 1085
 Thr Pro Gly Met Pro Gly Ser Pro Gly Pro Arg Gly Ser Pro Gly Asn
 1090 1095 1100
 Ile Gly His Pro Gly Ser Pro Gly Leu Pro Gly Glu Lys Gly Asp Lys
 1105 1110 1115 1120
 Gly Leu Pro Gly Leu Asp Gly Val Pro Gly Val Lys Gly Glu Ala Gly
 1125 1130 1135
 Leu Pro Gly Thr Pro Gly Pro Thr Gly Pro Ala Gly Gln Lys Gly Glu
 1140 1145 1150
 Pro Gly Ser Asp Gly Ile Pro Gly Ser Ala Gly Glu Lys Gly Glu Gln
 1155 1160 1165
 Gly Val Pro Gly Arg Gly Phe Pro Gly Phe Pro Gly Ser Lys Gly Asp
 1170 1175 1180
 Lys Gly Ser Lys Gly Glu Val Gly Phe Pro Gly Leu Ala Gly Ser Pro
 1185 1190 1195 1200
 Gly Ile Pro Gly Val Lys Gly Glu Gln Gly Phe Met Gly Pro Pro Gly
 1205 1210 1215
 Pro Gln Gly Gln Pro Gly Leu Pro Gly Thr Pro Gly His Pro Val Glu
 1220 1225 1230
 Gly Pro Lys Gly Asp Arg Gly Pro Gln Gly Gln Pro Gly Leu Pro Gly
 1235 1240 1245
 His Pro Gly Pro Met Gly Pro Pro Gly Phe Pro Gly Ile Asn Gly Pro
 1250 1255 1260
 Lys Gly Asp Lys Gly Asn Gln Gly Trp Pro Gly Ala Pro Gly Val Pro
 1265 1270 1275 1280
 Gly Pro Lys Gly Asp Pro Gly Phe Gln Gly Met Pro Gly Ile Gly Gly
 1285 1290 1295
 Ser Pro Gly Ile Thr Gly Ser Lys Gly Asp Met Gly Leu Pro Gly Val

1300	1305	1310
Pro Gly Phe Gln Gly Gln Lys Gly Leu Pro Gly Leu Gln Gly Val Lys		
1315	1320	1325
Gly Asp Gln Gly Asp Gln Gly Val Pro Gly Pro Lys Gly Leu Gln Gly		
1330	1335	1340
Pro Pro Gly Pro Pro Gly Pro Tyr Asp Val Ile Lys Gly Glu Pro Gly		
345	1350	1355
		1360
Leu Pro Gly Pro Glu Gly Pro Pro Gly Leu Lys Gly Leu Gln Gly Pro		
1365	1370	1375
Pro Gly Pro Lys Gly Gln Gln Gly Val Thr Gly Ser Val Gly Leu Pro		
1380	1385	1390
Gly Pro Pro Gly Val Pro Gly Phe Asp Gly Ala Pro Gly Gln Lys Gly		
1395	1400	1405
Glu Thr Gly Pro Phe Gly Pro Pro Gly Pro Arg Gly Phe Pro Gly Pro		
1410	1415	1420
Pro Gly Pro Asp Gly Leu Pro Gly Ser Met Gly Pro Pro Gly Thr Pro		
425	1430	1435
		1440
Ser Val Asp His Gly Phe Leu Val Thr Arg His Ser Gln Thr Thr Asp		
1445	1450	1455
Asp Pro Leu Cys Pro Pro Gly Thr Lys Ile Leu Tyr His Gly Tyr Ser		
1460	1465	1470
Leu Leu Tyr Val Gln Gly Asn Glu Arg Ala His Gly Gln Asp Leu Gly		
1475	1480	1485
Thr Ala Gly Ser Cys Leu Arg Lys Phe Ser Thr Met Pro Phe Leu Phe		
1490	1495	1500
Cys Asn Ile Asn Asn Val Cys Asn Phe Ala Ser Arg Asn Asp Tyr Ser		
505	1510	1515
		1520
Tyr Trp Leu Ser Thr Pro Glu Pro Met Pro Met Ser Met Ala Pro Ile		
1525	1530	1535

Ser Gly Asp Asn Ile Arg Pro Phe Ile Ser Arg Cys Ala Val Cys Glu
 1540 1545 1550
 Ala Pro Ala Met Val Met Ala Val His Ser Gln Thr Ile Gln Ile Pro
 1555 1560 1565
 Gln Cys Pro Asn Gly Trp Ser Ser Leu Trp Ile Gly Tyr Ser Phe Val
 1570 1575 1580
 Met His Thr Ser Ala Gly Ala Glu Gly Ser Gly Gln Ala Leu Ala Ser
 585 1590 1595 1600
 Pro Gly Ser Cys Leu Glu Glu Phe Arg Ser Ala Pro Phe Ile Glu Cys
 1605 1610 1615
 His Gly Arg Gly Thr Cys Asn Tyr Tyr Ala Asn Ala Tyr Ser Phe Trp
 1620 1625 1630
 Leu Ala Thr Ile Glu Arg Ser Glu Met Phe Lys Lys Pro Thr Pro Ser
 1635 1640 1645
 Thr Leu Lys Ala Gly Glu Leu Arg Thr His Val Ser Arg Cys Gln Val
 1650 1655 1660
 Cys Met Arg Arg Thr
 665

<210> 934

<211> 569

<212> DNA

<213> Mus musculus

<400> 934

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 tcctgcaccc acgatacttc ggtccaaact tgctcaacac ggtgaagcag aagctgttta 180
 ccgaggtgga ggggacctgc actgggaaat atggctttgt aattgctgtc accaccatcg 240

acaatatiggtgctgggtg atccagccag gccgaggttt tgttctttat ccagtgaat 300
 acaaagctat tgttttccgg ccctttaaag gtgaagtgtt ggatgctgtg gtcactcagg 360
 tcaacaaggt tggacttttc acagaaattg ggcctatgtc ttgcttcac tctcgacatt 420
 ccatcccttc agagatggag ttgatccag attcaaacc gccttgctat aagaccatgg 480
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<210> 935

<211> 2121

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (48).. (1553)

<400> 935

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 Ala Ser Val Thr Ser Pro Gly Ser Leu Glu Leu Leu Gln Pro Gly Phe
 5 10 15
 tcc aag acc ctc ctg ggg acc agg tta gaa gcc aag tac ctc tgt tca 152
 Ser Lys Thr Leu Leu Gly Thr Arg Leu Glu Ala Lys Tyr Leu Cys Ser
 20 25 30 35
 gcc tgc aaa aac atc ctg cgg agg cct ttc cag gcc cag tgt ggg cac 200
 Ala Cys Lys Asn Ile Leu Arg Arg Pro Phe Gln Ala Gln Cys Gly His
 40 45 50

cgc tac tgc tcc ttc tgc ctg acc agc atc ctc agc tct ggg ccc cag 248
 Arg Tyr Cys Ser Phe Cys Leu Thr Ser Ile Leu Ser Ser Gly Pro Gln
 55 60 65
 aac tgt gct gcc tgt gtc tat gaa ggc ctg tat gaa gaa ggc att tct 296
 Asn Cys Ala Ala Cys Val Tyr Glu Gly Leu Tyr Glu Glu Gly Ile Ser
 70 75 80
 att tta gag agt agt tcg gcc ttt cca gat aac gct gcc cgc aga gag 344
 Ile Leu Glu Ser Ser Ser Ala Phe Pro Asp Asn Ala Ala Arg Arg Glu
 85 90 95
 gtg gag agc ctg cca gct gtc tgt ccc aat gat gga tgc act tgg aag 392
 Val Glu Ser Leu Pro Ala Val Cys Pro Asn Asp Gly Cys Thr Trp Lys
 100 105 110 115
 ggg acc ttg aaa gaa tac gag agc tgc cac gaa gga ctt tgc cca ttc 440
 Gly Thr Leu Lys Glu Tyr Glu Ser Cys His Glu Gly Leu Cys Pro Phe
 120 125 130
 ctg ctg acg gag tgt cct gca tgt aaa ggc ctg gtc cgc ctc agc gag 488
 Leu Leu Thr Glu Cys Pro Ala Cys Lys Gly Leu Val Arg Leu Ser Glu
 135 140 145
 aag gag cac cac act gag cag gaa tgc ccc aaa agg agc ctg agc tgc 536
 Lys Glu His His Thr Glu Gln Glu Cys Pro Lys Arg Ser Leu Ser Cys
 150 155 160
 cag cac tgc aga gca ccc tgt agc cac gtg gac ctg gag gta cac tat 584
 Gln His Cys Arg Ala Pro Cys Ser His Val Asp Leu Glu Val His Tyr
 165 170 175
 gag gtc tgc ccc aag ttt ccc tta acc tgt gat ggc tgt ggc aag aag 632
 Glu Val Cys Pro Lys Phe Pro Leu Thr Cys Asp Gly Cys Gly Lys Lys
 180 185 190 195
 aag atc cct cgg gag acg ttt cag gac cat gtt aga gca tgc agc aaa 680
 Lys Ile Pro Arg Glu Thr Phe Gln Asp His Val Arg Ala Cys Ser Lys

200	205	210	
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Cys Arg Val Leu Cys Arg Phe His Thr Val Gly Cys Ser Glu Met Val			
215	220	225	
gag act gag aac ctg cag gat cat gag ctg cag cgg cta cgg gaa cac			776
Glu Thr Glu Asn Leu Gln Asp His Glu Leu Gln Arg Leu Arg Glu His			
230	235	240	
cta gcc cta ctg ctg agc tca ttc ttg gag gcc caa gcc tct cca gga			824
Leu Ala Leu Leu Leu Ser Ser Phe Leu Glu Ala Gln Ala Ser Pro Gly			
245	250	255	
acc ttg aac cag gtg ggg cca gag cta ctc cag cgg tgc cag att ttg			872
Thr Leu Asn Gln Val Gly Pro Glu Leu Leu Gln Arg Cys Gln Ile Leu			
260	265	270	275
gag cag aag ata gca acc ttt gag aac att gtc tgc gtc ttg aac cgt			920
Glu Gln Lys Ile Ala Thr Phe Glu Asn Ile Val Cys Val Leu Asn Arg			
280	285	290	
gaa gta gag agg gta gca gtg act gca gag gct tgt agc cgg cag cac			968
Glu Val Glu Arg Val Ala Val Thr Ala Glu Ala Cys Ser Arg Gln His			
295	300	305	
cgg cta gac cag gac aag att gag gcc ctg agt aac aag gtg caa cag			1016
Arg Leu Asp Gln Asp Lys Ile Glu Ala Leu Ser Asn Lys Val Gln Gln			
310	315	320	
ctg gag agg agc atc ggc ctc aag gac ctg gcc atg gct gac ctg gag			1064
Leu Glu Arg Ser Ile Gly Leu Lys Asp Leu Ala Met Ala Asp Leu Glu			
325	330	335	
cag aag gtc tcc gag ttg gaa gta tcc acc tat gat ggg gtc ttc atc			1112
Gln Lys Val Ser Glu Leu Glu Val Ser Thr Tyr Asp Gly Val Phe Ile			
340	345	350	355
tgg aag atc tct gac ttc acc aga aag cgt cag gaa gcc gta gct ggc			1160

Trp Lys Ile Ser Asp Phe Thr Arg Lys Arg Gln Glu Ala Val Ala Gly
 360 365 370
 cgg aca cca gct atc ttc tcc cca gcc ttc tac aca agc aga tat ggc 1208
 Arg Thr Pro Ala Ile Phe Ser Pro Ala Phe Tyr Thr Ser Arg Tyr Gly
 375 380 385
 tac aag atg tgt cta cga gtc tac ttg aat ggc gac ggc act ggg cgg 1256
 Tyr Lys Met Cys Leu Arg Val Tyr Leu Asn Gly Asp Gly Thr Gly Arg
 390 395 400
 gga act cat ctg tct ctc ttc ttc gtg gtg atg aaa ggc ccc aat gat 1304
 Gly Thr His Leu Ser Leu Phe Phe Val Val Met Lys Gly Pro Asn Asp
 405 410 415
 gct ctg ttg cag tgg cct ttt aat cag aag gta aca ttg atg ttg ctg 1352
 Ala Leu Leu Gln Trp Pro Phe Asn Gln Lys Val Thr Leu Met Leu Leu
 420 425 430 435
 gac cat aac aac cgg gag cat gtg atc gac gca ttc agg ccc gat gta 1400
 Asp His Asn Asn Arg Glu His Val Ile Asp Ala Phe Arg Pro Asp Val
 440 445 450
 acc tcg tcc tcc ttc cag agg cct gtc agt gac atg aac atc gcc agt 1448
 Thr Ser Ser Ser Phe Gln Arg Pro Val Ser Asp Met Asn Ile Ala Ser
 455 460 465
 ggc tgc ccc ctc ttc tgc cct gtg tcc aag atg gag gcc aag aat tcc 1496
 Gly Cys Pro Leu Phe Cys Pro Val Ser Lys Met Glu Ala Lys Asn Ser
 470 475 480
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 Tyr Val Arg Asp Asp Ala Ile Phe Ile Lys Ala Ile Val Asp Leu Thr
 485 490 495
 gga ctc tag ccaccctgc taagaatagc agctcagtga ggagctgtca 1593
 Gly Leu
 500

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<210> 936

<211> 501

<212> PRT

<213> Mus musculus

<400> 936

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Pro	Gly	Phe	Ser	Lys	Thr	Leu	Leu	Gly	Thr	Arg	Leu	Glu	Ala	Lys	Tyr
				20					25					30	
Leu	Cys	Ser	Ala	Cys	Lys	Asn	Ile	Leu	Arg	Arg	Pro	Phe	Gln	Ala	Gln
			35					40					45		
Cys	Gly	His	Arg	Tyr	Cys	Ser	Phe	Cys	Leu	Thr	Ser	Ile	Leu	Ser	Ser
			50					55					60		
Gly	Pro	Gln	Asn	Cys	Ala	Ala	Cys	Val	Tyr	Glu	Gly	Leu	Tyr	Glu	Glu
			65				70				75			80	
Gly	Ile	Ser	Ile	Leu	Glu	Ser	Ser	Ser	Ala	Phe	Pro	Asp	Asn	Ala	Ala
				85					90					95	
Arg	Arg	Glu	Val	Glu	Ser	Leu	Pro	Ala	Val	Cys	Pro	Asn	Asp	Gly	Cys

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Thr Trp Lys Gly Thr Leu Lys Glu Tyr Glu Ser Cys His Glu Gly Leu		
115	120	125
Cys Pro Phe Leu Leu Thr Glu Cys Pro Ala Cys Lys Gly Leu Val Arg		
130	135	140
Leu Ser Glu Lys Glu His His Thr Glu Gln Glu Cys Pro Lys Arg Ser		
145	150	155
Leu Ser Cys Gln His Cys Arg Ala Pro Cys Ser His Val Asp Leu Glu		
165	170	175
Val His Tyr Glu Val Cys Pro Lys Phe Pro Leu Thr Cys Asp Gly Cys		
180	185	190
Gly Lys Lys Lys Ile Pro Arg Glu Thr Phe Gln Asp His Val Arg Ala		
195	200	205
Cys Ser Lys Cys Arg Val Leu Cys Arg Phe His Thr Val Gly Cys Ser		
210	215	220
Glu Met Val Glu Thr Glu Asn Leu Gln Asp His Glu Leu Gln Arg Leu		
225	230	235
Arg Glu His Leu Ala Leu Leu Leu Ser Ser Phe Leu Glu Ala Gln Ala		
245	250	255
Ser Pro Gly Thr Leu Asn Gln Val Gly Pro Glu Leu Leu Gln Arg Cys		
260	265	270
Gln Ile Leu Glu Gln Lys Ile Ala Thr Phe Glu Asn Ile Val Cys Val		
275	280	285
Leu Asn Arg Glu Val Glu Arg Val Ala Val Thr Ala Glu Ala Cys Ser		
290	295	300
Arg Gln His Arg Leu Asp Gln Asp Lys Ile Glu Ala Leu Ser Asn Lys		
305	310	315
Val Gln Gln Leu Glu Arg Ser Ile Gly Leu Lys Asp Leu Ala Met Ala		
325	330	335

Asp Leu Glu Gln Lys Val Ser Glu Leu Glu Val Ser Thr Tyr Asp Gly
 340 345 350
 Val Phe Ile Trp Lys Ile Ser Asp Phe Thr Arg Lys Arg Gln Glu Ala
 355 360 365
 Val Ala Gly Arg Thr Pro Ala Ile Phe Ser Pro Ala Phe Tyr Thr Ser
 370 375 380
 Arg Tyr Gly Tyr Lys Met Cys Leu Arg Val Tyr Leu Asn Gly Asp Gly
 385 390 395 400
 Thr Gly Arg Gly Thr His Leu Ser Leu Phe Phe Val Val Met Lys Gly
 405 410 415
 Pro Asn Asp Ala Leu Leu Gln Trp Pro Phe Asn Gln Lys Val Thr Leu
 420 425 430
 Met Leu Leu Asp His Asn Asn Arg Glu His Val Ile Asp Ala Phe Arg
 435 440 445
 Pro Asp Val Thr Ser Ser Ser Phe Gln Arg Pro Val Ser Asp Met Asn
 450 455 460
 Ile Ala Ser Gly Cys Pro Leu Phe Cys Pro Val Ser Lys Met Glu Ala
 465 470 475 480
 Lys Asn Ser Tyr Val Arg Asp Asp Ala Ile Phe Ile Lys Ala Ile Val
 485 490 495
 Asp Leu Thr Gly Leu
 500

<210> 937

<211> 510

<212> DNA

<213> Mus musculus

<400> 937

ggctcaaaa ttctgtgaca gatttttgggt caagttgatt ccattaataaa gtactgattt 60
 tgaaaactaa taacttaaaa ctgccacaca catagaaaat ggtccacaac attctttcct 120
 tctgaagggt ttacgatgca ttgttatcat taaccagtct tttactatta aacttagatg 180
 gccaatlgag acaaacagtt ctgagaccgt tcttccacca ctgattaaga ctgggggtggc 240
 aggtgttatg ggtaatatc atttagcctt ctgagcttct tgtgcagaca tggtgacata 300
 gccagctcca gcagccttct tgtccacagc ttigtatgaca ccacagcaac tgtctgcctc 360
 atgtcacgaa cagcaaagcg accaagtgga gggtagtcag atcagctctc aacacacatg 420
 ggcttgcagt ggacatatta acaatgggag catcgcagac ttcaggaact tggggccatc 480
 tccaggtttt accggatcgc gattgtcttt 510

<210> 938

<211> 1031

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (97).. (762)

<400> 938

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 aactccgcgc tgggctaggg aaccggctcc ggtggg atg gag gcg ggc ggc gtg 114
 Met Glu Ala Gly Gly Val
 1 5
 gca gac tct ttc ctt tct agt gcc tgc gtg ctc ttc acc ctg ggc atg 162
 Ala Asp Ser Phe Leu Ser Ser Ala Cys Val Leu Phe Thr Leu Gly Met
 10 15 20
 ttc tcc act ggc ctc tcg gac ctc agg cat atg cag agg aca cgg agc 210
 Phe Ser Thr Gly Leu Ser Asp Leu Arg His Met Gln Arg Thr Arg Ser

25	30	35	
gtg gac aac atc cag ttc ctg cct ttt ctc acc acg gat gtc aac aac			258
Val Asp Asn Ile Gln Phe Leu Pro Phe Leu Thr Thr Asp Val Asn Asn			
40	45	50	
ctg agc tgg ctg agt tac gga gtc ttg aag gga gat ggg acc ctt atc			306
Leu Ser Trp Leu Ser Tyr Gly Val Leu Lys Gly Asp Gly Thr Leu Ile			
55	60	65	70
atc gtc aat agc gtg ggg gcc gtg ctt cag act ctt tat atc ctg gca			354
Ile Val Asn Ser Val Gly Ala Val Leu Gln Thr Leu Tyr Ile Leu Ala			
75	80	85	
tat ctg cac tac agt cct cag aag cat ggt gtg ctc ctg cag acg gca			402
Tyr Leu His Tyr Ser Pro Gln Lys His Gly Val Leu Leu Gln Thr Ala			
90	95	100	
acc ctg ctg gct gtc ctt ctc ctg ggt tat ggc tac ttt tgg ctt ctg			450
Thr Leu Leu Ala Val Leu Leu Leu Gly Tyr Gly Tyr Phe Trp Leu Leu			
105	110	115	
gtg ccg gac ctt gag gcc cgg ctt cag cag cta ggc ctc ttc tgt agc			498
Val Pro Asp Leu Glu Ala Arg Leu Gln Gln Leu Gly Leu Phe Cys Ser			
120	125	130	
gtc ttt acc atc agc atg tac ctc tcc cca ctg gct gat ttg gcc aag			546
Val Phe Thr Ile Ser Met Tyr Leu Ser Pro Leu Ala Asp Leu Ala Lys			
135	140	145	150
atc gtt cag act aaa tca acc cag cgc ctc tcc ttc tcc ctg acc att			594
Ile Val Gln Thr Lys Ser Thr Gln Arg Leu Ser Phe Ser Leu Thr Ile			
155	160	165	
gcc acg ctc ttt tgc tcc gcc tct tgg tct att tac ggg ttt cgc ctc			642
Ala Thr Leu Phe Cys Ser Ala Ser Trp Ser Ile Tyr Gly Phe Arg Leu			
170	175	180	
cga gac cca tac atc gcg gtg ccc aac ctt cca gga atc ctc acc agc			690

Arg Asp Pro Tyr Ile Ala Val Pro Asn Leu Pro Gly Ile Leu Thr Ser
 185 190 195
 tta atc cgc ctc ggg ctt ttc tgc aag tac cct cca gag caa gac agg 738
 Leu Ile Arg Leu Gly Leu Phe Cys Lys Tyr Pro Pro Glu Gln Asp Arg
 200 205 210
 aag tac cgc ctc ctg cag acc tga cccagggcac ccgagtgcca actggatacc 792
 Lys Tyr Arg Leu Leu Gln Thr
 215 220
 aaacagagct cctgtttctg ctggtccttg tgaccagttc catggatgca ataggttgtg 852
 agaaaaagat gactttgaaa cttaaaggac caaagatctt tccttagatc agataggacc 912
 tgigggatga aatcacattt ttacaggaga tcatcttttc tcatttcgga ggctgaggtg 972
 gtattagaat gtgccttaaa ataaactgtt ccccccctt gaaaaaaaaa aaaaaaaaaa 1031

<210> 939

<211> 221

<212> PRT

<213> Mus musculus

<400> 939

Met Glu Ala Gly Gly Val Ala Asp Ser Phe Leu Ser Ser Ala Cys Val
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 Leu Phe Thr Leu Gly Met Phe Ser Thr Gly Leu Ser Asp Leu Arg His
 20 25 30
 Met Gln Arg Thr Arg Ser Val Asp Asn Ile Gln Phe Leu Pro Phe Leu
 35 40 45
 Thr Thr Asp Val Asn Asn Leu Ser Trp Leu Ser Tyr Gly Val Leu Lys
 50 55 60
 Gly Asp Gly Thr Leu Ile Ile Val Asn Ser Val Gly Ala Val Leu Gln
 65 70 75 80

Thr Leu Tyr Ile Leu Ala Tyr Leu His Tyr Ser Pro Gln Lys His Gly
 85 90 95
 Val Leu Leu Gln Thr Ala Thr Leu Leu Ala Val Leu Leu Leu Gly Tyr
 100 105 110
 Gly Tyr Phe Trp Leu Leu Val Pro Asp Leu Glu Ala Arg Leu Gln Gln
 115 120 125
 Leu Gly Leu Phe Cys Ser Val Phe Thr Ile Ser Met Tyr Leu Ser Pro
 130 135 140
 Leu Ala Asp Leu Ala Lys Ile Val Gln Thr Lys Ser Thr Gln Arg Leu
 145 150 155 160
 Ser Phe Ser Leu Thr Ile Ala Thr Leu Phe Cys Ser Ala Ser Trp Ser
 165 170 175
 Ile Tyr Gly Phe Arg Leu Arg Asp Pro Tyr Ile Ala Val Pro Asn Leu
 180 185 190
 Pro Gly Ile Leu Thr Ser Leu Ile Arg Leu Gly Leu Phe Cys Lys Tyr
 195 200 205
 Pro Pro Glu Gln Asp Arg Lys Tyr Arg Leu Leu Gln Thr
 210 215 220

<210> 940

<211> 2596

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (126).. (2009)

<400> 940

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 agtggcgcag tctttiaccca gcgcgagggg cggagggacc gagggtccgc aaacagactg 120
 ggacg atg tta gcc ttt gct gcc aga acc gtg gta aaa ccc ctg ggc ctc 170

Met Leu Ala Phe Ala Ala Arg Thr Val Val Lys Pro Leu Gly Leu

1 5 10 15
 ctc aag ccc tcc tcc ttg atg aag gtt tct ggt cgc ttc aag gcc cac 218
 Leu Lys Pro Ser Ser Leu Met Lys Val Ser Gly Arg Phe Lys Ala His

20 25 30
 caa gat gca ctg cca agg ctg cct gtg ccc cca ctt cag caa tcc ctg 266
 Gln Asp Ala Leu Pro Arg Leu Pro Val Pro Pro Leu Gln Gln Ser Leu

35 40 45
 gac tat tac ctc aag gca ctg cag ccc atc gtg agt gag gaa gaa tgg 314
 Asp Tyr Tyr Leu Lys Ala Leu Gln Pro Ile Val Ser Glu Glu Glu Trp

50 55 60
 gct cac acc aag caa ctg gtg gat gag ttt cag acc tca ggg ggc gta 362
 Ala His Thr Lys Gln Leu Val Asp Glu Phe Gln Thr Ser Gly Gly Val

65 70 75
 ggg gaa cgc tta cag aag gga ctg gag cgc agg gcc aag aaa atg gag 410
 Gly Glu Arg Leu Gln Lys Gly Leu Glu Arg Arg Ala Lys Lys Met Glu

80 85 90 95
 aac tgg ctg tcc gag tgg tgg ctc aag aca gcc tat ctc cag tta ccn 458
 Asn Trp Leu Ser Glu Trp Trp Leu Lys Thr Ala Tyr Leu Gln Leu Xaa

100 105 110
 gac aag cct gtg gtc atc tac tcc agc cca gga gtg atc ctg ccc aag 506
 Asp Lys Pro Val Val Ile Tyr Ser Ser Pro Gly Val Ile Leu Pro Lys

115 120 125
 cag gac ttt gtg gat cta cag ggt cag ctt cgg ttt gct gcc aaa ctc 554
 Gln Asp Phe Val Asp Leu Gln Gly Gln Leu Arg Phe Ala Ala Lys Leu

130

135

140

atc gag ggt gta ttg gat ttc aag tcc atg att gac aat gag acg ctg	602
Ile Glu Gly Val Leu Asp Phe Lys Ser Met Ile Asp Asn Glu Thr Leu	
145 150 155	
cca gtt gag ttc ctg gga gga cag ccg ctg tgc atg aac cag tat tat	650
Pro Val Glu Phe Leu Gly Gly Gln Pro Leu Cys Met Asn Gln Tyr Tyr	
160 165 170 175	
cag atc ctg tct tct tgc cgt gag ccc ggc ccc aag cag gac tca gtg	698
Gln Ile Leu Ser Ser Cys Arg Glu Pro Gly Pro Lys Gln Asp Ser Val	
180 185 190	
gtg aac ttc tta aag tca aag aga cca ccc acg cat ata acc gtg gtg	746
Val Asn Phe Leu Lys Ser Lys Arg Pro Pro Thr His Ile Thr Val Val	
195 200 205	
cat aac tac cag ttc ttc gag ctg gat gtg tac aac agt gac gga aca	794
His Asn Tyr Gln Phe Phe Glu Leu Asp Val Tyr Asn Ser Asp Gly Thr	
210 215 220	
ccg ctc acc tca gat cag atc ttt gtg cag cta gag aaa ata tgg aat	842
Pro Leu Thr Ser Asp Gln Ile Phe Val Gln Leu Glu Lys Ile Trp Asn	
225 230 235	
tcc tca ctg caa tcc aac aaa gag cct gtt ggc atc cta acc tcc aac	890
Ser Ser Leu Gln Ser Asn Lys Glu Pro Val Gly Ile Leu Thr Ser Asn	
240 245 250 255	
cac cga aac acc tgg gcc aag gcc tac aac aac ctc att aaa gac aaa	938
His Arg Asn Thr Trp Ala Lys Ala Tyr Asn Asn Leu Ile Lys Asp Lys	
260 265 270	
gtt aac cga gag tca gtg aac tcc ata cag aag agc atc ttc acc gtg	986
Val Asn Arg Glu Ser Val Asn Ser Ile Gln Lys Ser Ile Phe Thr Val	
275 280 285	
tgc ctg gac aag caa gtg cct aga gtc tca gat gat gtc tac cga aac	1034
Cys Leu Asp Lys Gln Val Pro Arg Val Ser Asp Asp Val Tyr Arg Asn	

290	295	300	
cac gta gca ggc cag atg cta cat ggt ggt ggt agc aag ttc aac agt			1082
His Val Ala Gly Gln Met Leu His Gly Gly Gly Ser Lys Phe Asn Ser			
305	310	315	
ggc aac cgc tgg ttt gac aag aca ctg cag ttc atc gtg gca gaa gac			1130
Gly Asn Arg Trp Phe Asp Lys Thr Leu Gln Phe Ile Val Ala Glu Asp			
320	325	330	335
ggc tcc tgt ggg atg gtg tat gag cat gca gct gca gaa ggg ccc ccc			1178
Gly Ser Cys Gly Met Val Tyr Glu His Ala Ala Ala Glu Gly Pro Pro			
340	345	350	
ata gtt gca ctt gtg gac cat gtc atg gag tat aca aaa aag cct gag			1226
Ile Val Ala Leu Val Asp His Val Met Glu Tyr Thr Lys Lys Pro Glu			
355	360	365	
ctt gtg cgg tct cct atg gtg ccc ttg cca atg ccc aag aag ctg cgg			1274
Leu Val Arg Ser Pro Met Val Pro Leu Pro Met Pro Lys Lys Leu Arg			
370	375	380	
ttc aac atc aca cct gag atc aag aac gac ata gag aaa gcc aaa cag			1322
Phe Asn Ile Thr Pro Glu Ile Lys Asn Asp Ile Glu Lys Ala Lys Gln			
385	390	395	
aac ctc agc atc atg atc cag gac ctg gac atc atg atg ctg acg ttc			1370
Asn Leu Ser Ile Met Ile Gln Asp Leu Asp Ile Met Met Leu Thr Phe			
400	405	410	415
cat cac ttt gga aag gac ttc ccc aag tcc gag aag cta agc cct gat			1418
His His Phe Gly Lys Asp Phe Pro Lys Ser Glu Lys Leu Ser Pro Asp			
420	425	430	
gcc ttc atc cag gta gcc ctg cag ctg gca tac tac agg atc tat ggg			1466
Ala Phe Ile Gln Val Ala Leu Gln Leu Ala Tyr Tyr Arg Ile Tyr Gly			
435	440	445	
cag gcg tgt gcc acg tat gaa agt gcc tct ctg cgc atg ttt cac ctg			1514

Gln Ala Cys Ala Thr Tyr Glu Ser Ala Ser Leu Arg Met Phe His Leu
 450 455 460
 ggc cgc act gac acc atc cgc tca gcc tcc ata gac tcg ctg gcc ttt 1562
 Gly Arg Thr Asp Thr Ile Arg Ser Ala Ser Ile Asp Ser Leu Ala Phe
 465 470 475
 gtc aaa ggc atg ggt gac tcc aca gtg ccg gag cag cag aag gtg gag 1610
 Val Lys Gly Met Gly Asp Ser Thr Val Pro Glu Gln Gln Lys Val Glu
 480 485 490 495
 ctg ctc cgg aag gct gtg cag gcc cac cga gcc tac act gac cgg gcc 1658
 Leu Leu Arg Lys Ala Val Gln Ala His Arg Ala Tyr Thr Asp Arg Ala
 500 505 510
 atc cga ggg gag gcc ttt gac cgg cac ctg ctg ggt ctg aag ctg cag 1706
 Ile Arg Gly Glu Ala Phe Asp Arg His Leu Leu Gly Leu Lys Leu Gln
 515 520 525
 gcc atc gag gac ctg gtc agc atg cct gac atc ttc atg gac acc tct 1754
 Ala Ile Glu Asp Leu Val Ser Met Pro Asp Ile Phe Met Asp Thr Ser
 530 535 540
 tac gcc att gct atg cac ttc aac ctc tct acc agc cag gtc cct gcc 1802
 Tyr Ala Ile Ala Met His Phe Asn Leu Ser Thr Ser Gln Val Pro Ala
 545 550 555
 aag aca gac tgt gtc atg ttc ttc gga cct gtg gtc cca gat ggt tat 1850
 Lys Thr Asp Cys Val Met Phe Phe Gly Pro Val Val Pro Asp Gly Tyr
 560 565 570 575
 ggc atc tgc tac aac ccc atg gag gcc cat atc aac ctc tcc gtg tca 1898
 Gly Ile Cys Tyr Asn Pro Met Glu Ala His Ile Asn Leu Ser Val Ser
 580 585 590
 gcc tac aac agc tgt gct gag acc aac gct gcc cgc atg gct cac tac 1946
 Ala Tyr Asn Ser Cys Ala Glu Thr Asn Ala Ala Arg Met Ala His Tyr
 595 600 605

ttg gag aaa gct ctg ctg gac atg cgc acc cta ctc cag aac cac ccc 1994
 Leu Glu Lys Ala Leu Leu Asp Met Arg Thr Leu Leu Gln Asn His Pro

610

615

620

agg gcc aag ctc tga gccaggccc agacctgcca ctccacagc caaaccact 2049
 Arg Ala Lys Leu

625

ttgggatgga cacttgccat ggctcacttc ctgggtccg tgccccagc ttgagccaga 2109
 aaagcattct ctagcaaggc ccaacgtcca cacaagtgc ttccaggccc tgctcttaga 2169
 cctgccggag tccatgtgca gggctgagtc cagaggctga acaagactac ggcccaggtt 2229
 cccaatgtat catccactcc atgaacatg gagaagagag ccagtcacgc ccattccctc 2289
 tcacagcagg agccgggaag agttcctttc ctgagcctgg ccaatctctt gtcattcca 2349
 cagccaggcc aaaatctgtc ttcatgtgta aatgcccaag gaccagcggg gggaggatta 2409
 tctatcagtg agggctctca acctcccat agctaagggt taagtcittg tagccaaagg 2469
 gacatctgag gccagcctc caccagccca cctcaagggt ccattccct gctgccacac 2529
 tctggtgact ctgagcccc agacttattg ctccattca gtgtgattct tgctgcagtc 2589
 atggtgg 2596

<210> 941

<211> 627

<212> PRT

<213> Mus musculus

<400> 941

Met Leu Ala Phe Ala Ala Arg Thr Val Val Lys Pro Leu Gly Leu Leu

1

5

10

15

Lys Pro Ser Ser Leu Met Lys Val Ser Gly Arg Phe Lys Ala His Gln

20

25

30

Asp Ala Leu Pro Arg Leu Pro Val Pro Pro Leu Gln Gln Ser Leu Asp

35

40

45

Tyr Tyr Leu Lys Ala Leu Gln Pro Ile Val Ser Glu Glu Glu Trp Ala
 50 55 60
 His Thr Lys Gln Leu Val Asp Glu Phe Gln Thr Ser Gly Gly Val Gly
 65 70 75 80
 Glu Arg Leu Gln Lys Gly Leu Glu Arg Arg Ala Lys Lys Met Glu Asn
 85 90 95
 Trp Leu Ser Glu Trp Trp Leu Lys Thr Ala Tyr Leu Gln Leu Xaa Asp
 100 105 110
 Lys Pro Val Val Ile Tyr Ser Ser Pro Gly Val Ile Leu Pro Lys Gln
 115 120 125
 Asp Phe Val Asp Leu Gln Gly Gln Leu Arg Phe Ala Ala Lys Leu Ile
 130 135 140
 Glu Gly Val Leu Asp Phe Lys Ser Met Ile Asp Asn Glu Thr Leu Pro
 145 150 155 160
 Val Glu Phe Leu Gly Gly Gln Pro Leu Cys Met Asn Gln Tyr Tyr Gln
 165 170 175
 Ile Leu Ser Ser Cys Arg Glu Pro Gly Pro Lys Gln Asp Ser Val Val
 180 185 190
 Asn Phe Leu Lys Ser Lys Arg Pro Pro Thr His Ile Thr Val Val His
 195 200 205
 Asn Tyr Gln Phe Phe Glu Leu Asp Val Tyr Asn Ser Asp Gly Thr Pro
 210 215 220
 Leu Thr Ser Asp Gln Ile Phe Val Gln Leu Glu Lys Ile Trp Asn Ser
 225 230 235 240
 Ser Leu Gln Ser Asn Lys Glu Pro Val Gly Ile Leu Thr Ser Asn His
 245 250 255
 Arg Asn Thr Trp Ala Lys Ala Tyr Asn Asn Leu Ile Lys Asp Lys Val
 260 265 270
 Asn Arg Glu Ser Val Asn Ser Ile Gln Lys Ser Ile Phe Thr Val Cys

275	280	285
Leu Asp Lys Gln Val Pro Arg Val Ser Asp Asp Val Tyr Arg Asn His		
290	295	300
Val Ala Gly Gln Met Leu His Gly Gly Gly Ser Lys Phe Asn Ser Gly		
305	310	315
Asn Arg Trp Phe Asp Lys Thr Leu Gln Phe Ile Val Ala Glu Asp Gly		
325	330	335
Ser Cys Gly Met Val Tyr Glu His Ala Ala Ala Glu Gly Pro Pro Ile		
340	345	350
Val Ala Leu Val Asp His Val Met Glu Tyr Thr Lys Lys Pro Glu Leu		
355	360	365
Val Arg Ser Pro Met Val Pro Leu Pro Met Pro Lys Lys Leu Arg Phe		
370	375	380
Asn Ile Thr Pro Glu Ile Lys Asn Asp Ile Glu Lys Ala Lys Gln Asn		
385	390	395
Leu Ser Ile Met Ile Gln Asp Leu Asp Ile Met Met Leu Thr Phe His		
405	410	415
His Phe Gly Lys Asp Phe Pro Lys Ser Glu Lys Leu Ser Pro Asp Ala		
420	425	430
Phe Ile Gln Val Ala Leu Gln Leu Ala Tyr Tyr Arg Ile Tyr Gly Gln		
435	440	445
Ala Cys Ala Thr Tyr Glu Ser Ala Ser Leu Arg Met Phe His Leu Gly		
450	455	460
Arg Thr Asp Thr Ile Arg Ser Ala Ser Ile Asp Ser Leu Ala Phe Val		
465	470	475
Lys Gly Met Gly Asp Ser Thr Val Pro Glu Gln Gln Lys Val Glu Leu		
485	490	495
Leu Arg Lys Ala Val Gln Ala His Arg Ala Tyr Thr Asp Arg Ala Ile		
500	505	510

Arg Gly Glu Ala Phe Asp Arg His Leu Leu Gly Leu Lys Leu Gln Ala
 515 520 525
 Ile Glu Asp Leu Val Ser Met Pro Asp Ile Phe Met Asp Thr Ser Tyr
 530 535 540
 Ala Ile Ala Met His Phe Asn Leu Ser Thr Ser Gln Val Pro Ala Lys
 545 550 555 560
 Thr Asp Cys Val Met Phe Phe Gly Pro Val Val Pro Asp Gly Tyr Gly
 565 570 575
 Ile Cys Tyr Asn Pro Met Glu Ala His Ile Asn Leu Ser Val Ser Ala
 580 585 590
 Tyr Asn Ser Cys Ala Glu Thr Asn Ala Ala Arg Met Ala His Tyr Leu
 595 600 605
 Glu Lys Ala Leu Leu Asp Met Arg Thr Leu Leu Gln Asn His Pro Arg
 610 615 620
 Ala Lys Leu
 625

<210> 942

<211> 5110

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (139).. (3435)

<400> 942

ctccagggttt tccgcaatca ggccagccct tctactgctg tccgtttttt ggggccagca 60
 aaataacaga agacagcgag gtggacttcc tggagggggt gatagctcac atcagaagcc 120

atctgtagcc cggacacc atg ggg ctt cca gga gtg ata cca gct tta gtc 171
 Met Gly Leu Pro Gly Val Ile Pro Ala Leu Val
 1 5 10
 ctc aga ggc cag ttg ttg ctg tcc gtg tta tgg ctc ctg gga ccg cag 219
 Leu Arg Gly Gln Leu Leu Leu Ser Val Leu Trp Leu Leu Gly Pro Gln
 15 20 25
 acc tcc cgg ggc cta gtc atc acg ccc cct ggg cca gag ttt gtt ctc 267
 Thr Ser Arg Gly Leu Val Ile Thr Pro Pro Gly Pro Glu Phe Val Leu
 30 35 40
 aac atc tcc agc acc ttt gtt ctg acc tgc tgc ggc tca gct ccg gtg 315
 Asn Ile Ser Ser Thr Phe Val Leu Thr Cys Ser Gly Ser Ala Pro Val
 45 50 55
 atg tgg gaa cag atg tcc cag gtg ccc tgg caa gaa gcg gcc atg aat 363
 Met Trp Glu Gln Met Ser Gln Val Pro Trp Gln Glu Ala Ala Met Asn
 60 65 70 75
 cag gac ggc acc ttc tcc agt gtg ctg aca ctg acc aat gtc act ggg 411
 Gln Asp Gly Thr Phe Ser Ser Val Leu Thr Leu Thr Asn Val Thr Gly
 80 85 90
 gga gac act ggg gaa tac ttt tgt gtc tac aac aac tca cta ggg ccg 459
 Gly Asp Thr Gly Glu Tyr Phe Cys Val Tyr Asn Asn Ser Leu Gly Pro
 95 100 105
 gag ctc agt gag agg aag cgt atc tat atc ttt gtg cca gat ccc acc 507
 Glu Leu Ser Glu Arg Lys Arg Ile Tyr Ile Phe Val Pro Asp Pro Thr
 110 115 120
 atg ggc ttc ctc cct atg gac tcc gag gac ctg ttc att ttt gtc acg 555
 Met Gly Phe Leu Pro Met Asp Ser Glu Asp Leu Phe Ile Phe Val Thr
 125 130 135
 gat gtc act gag acg aca att ccg tgc cga gtg aca gac ccc cag ctg 603
 Asp Val Thr Glu Thr Thr Ile Pro Cys Arg Val Thr Asp Pro Gln Leu

140	145	150	155	
gag gtg acg cta cat gag aag aaa gtg gat atc ccc cta cac gta ccc				651
Glu Val Thr Leu His Glu Lys Lys Val Asp Ile Pro Leu His Val Pro				
	160	165	170	
tac gac cac cag cga ggt ttc act ggt act ttt gag gac aag act tac				699
Tyr Asp His Gln Arg Gly Phe Thr Gly Thr Phe Glu Asp Lys Thr Tyr				
	175	180	185	
att tgc aaa acc acc att ggg gac agg gaa gtg gac tcc gat act tac				747
Ile Cys Lys Thr Thr Ile Gly Asp Arg Glu Val Asp Ser Asp Thr Tyr				
	190	195	200	
tac gtc tac agc ctc cag gtg tca tcc atc aac gtc tct gtg aat gcc				795
Tyr Val Tyr Ser Leu Gln Val Ser Ser Ile Asn Val Ser Val Asn Ala				
	205	210	215	
gtg cag act gtg gtc cgc cag ggc gag agc atc acc atc cgg tgc att				843
Val Gln Thr Val Val Arg Gln Gly Glu Ser Ile Thr Ile Arg Cys Ile				
	220	225	230	235
gtg atg ggc aat gat gtg gtg aac ttc caa tgg acg tac ccc cgc atg				891
Val Met Gly Asn Asp Val Val Asn Phe Gln Trp Thr Tyr Pro Arg Met				
	240	245	250	
aag agt ggg cgg ctg gtg gag cca gtg aca gac tac ctc ttt gga gtg				939
Lys Ser Gly Arg Leu Val Glu Pro Val Thr Asp Tyr Leu Phe Gly Val				
	255	260	265	
ccc tcc cgc att ggc tcc atc ctg cat atc ccc acg gct gag ctg agt				987
Pro Ser Arg Ile Gly Ser Ile Leu His Ile Pro Thr Ala Glu Leu Ser				
	270	275	280	
gat tcg ggc acc tat act tgc aac gtg tca gtg agt gtg aac gac cat				1035
Asp Ser Gly Thr Tyr Thr Cys Asn Val Ser Val Ser Val Asn Asp His				
	285	290	295	
ggc gat gag aaa gcc atc aac atc tct gtg atc gag aat ggc tac gtg				1083

Gly Asp Glu Lys Ala Ile Asn Ile Ser Val Ile Glu Asn Gly Tyr Val	
300	305 310 315
cgg ctg ctg gag aca ctg gga gat gta gaa att gct gag ctg cac cgg	1131
Arg Leu Leu Glu Thr Leu Gly Asp Val Glu Ile Ala Glu Leu His Arg	
320	325 330
agt cgg acg ctg cgg gtg gtg ttc gag gct tat ccg atg cct tct gtc	1179
Ser Arg Thr Leu Arg Val Val Phe Glu Ala Tyr Pro Met Pro Ser Val	
335	340 345
ctg tgg ctc aag gac aac cgt acc ttg ggt gac tcc ggc gct ggc gag	1227
Leu Trp Leu Lys Asp Asn Arg Thr Leu Gly Asp Ser Gly Ala Gly Glu	
350	355 360
tta gtt ttg tct act cgc aac atg tct gag acc cgg tac gtg tca gaa	1275
Leu Val Leu Ser Thr Arg Asn Met Ser Glu Thr Arg Tyr Val Ser Glu	
365	370 375
ctg atc ctg gta cgt gtg aag gtg tca gaa gcg ggc tac tat act atg	1323
Leu Ile Leu Val Arg Val Lys Val Ser Glu Ala Gly Tyr Tyr Thr Met	
380	385 390 395
cga gcc ttc cac gag gac gat gag gtc cag ctc tcc ttc aag ctg cag	1371
Arg Ala Phe His Glu Asp Asp Glu Val Gln Leu Ser Phe Lys Leu Gln	
400	405 410
gtc aat gtc ccc gtc cgt gtg ctg gag ctg agt gag agt cac cct gcc	1419
Val Asn Val Pro Val Arg Val Leu Glu Leu Ser Glu Ser His Pro Ala	
415	420 425
aat ggg gag cag aca atc cgc tgt cgt ggc cgg ggc atg cct cag cca	1467
Asn Gly Glu Gln Thr Ile Arg Cys Arg Gly Arg Gly Met Pro Gln Pro	
430	435 440
aat gtc acc tgg tct acc tgc aga gac ctc aaa agg tgt cca cga aaa	1515
Asn Val Thr Trp Ser Thr Cys Arg Asp Leu Lys Arg Cys Pro Arg Lys	
445	450 455

2336/2644

605	610	615	
ggt ctg agc cat tcg cag gcc acc atg aaa gtg gct gtc aag atg ctg			2043
Gly Leu Ser His Ser Gln Ala Thr Met Lys Val Ala Val Lys Met Leu			
620	625	630	635
aaa tcg aca gcc aga agt agc gag aag caa gcc tta atg tcc gag ctg			2091
Lys Ser Thr Ala Arg Ser Ser Glu Lys Gln Ala Leu Met Ser Glu Leu			
	640	645	650
aag att atg agt cat ctt gga ccc cac ctg aac gtg gtc aac ctg ctg			2139
Lys Ile Met Ser His Leu Gly Pro His Leu Asn Val Val Asn Leu Leu			
	655	660	665
ggg gcc tgc acc aaa gga ggg ccc atc tac atc atc acg gaa tac tgc			2187
Gly Ala Cys Thr Lys Gly Gly Pro Ile Tyr Ile Ile Thr Glu Tyr Cys			
	670	675	680
cga tac ggt gat ctg gtg gac tac ctg cac cgg aac aaa cac acc ttc			2235
Arg Tyr Gly Asp Leu Val Asp Tyr Leu His Arg Asn Lys His Thr Phe			
	685	690	695
ttg cag cga cac tcc aac aag cat tgt ccg ccc agt gct gag ctc tac			2283
Leu Gln Arg His Ser Asn Lys His Cys Pro Pro Ser Ala Glu Leu Tyr			
700	705	710	715
agc aac gcc ctg cca gtg ggg ttc tcc cta ccc agc cac ttg aac ctg			2331
Ser Asn Ala Leu Pro Val Gly Phe Ser Leu Pro Ser His Leu Asn Leu			
	720	725	730
act ggg gag agt gac ggt ggc tac atg gat atg agc aag gat gaa tct			2379
Thr Gly Glu Ser Asp Gly Gly Tyr Met Asp Met Ser Lys Asp Glu Ser			
	735	740	745
ata gat tac gtg ccc atg ttg gac atg aaa gga gac atc aaa tac gca			2427
Ile Asp Tyr Val Pro Met Leu Asp Met Lys Gly Asp Ile Lys Tyr Ala			
	750	755	760
gac att gag tcc ccc agc tac atg gcc cct tat gat aac tat gtc cca			2475

Asp Ile Glu Ser Pro Ser Tyr Met Ala Pro Tyr Asp Asn Tyr Val Pro	
765	770
tct gcc cct gaa agg acc tat cgc gcc acc tta atc aac gac tca cca	2523
Ser Ala Pro Glu Arg Thr Tyr Arg Ala Thr Leu Ile Asn Asp Ser Pro	
780	785
gtg ctc agc tac aca gac ctc gtg ggc ttc agc tac caa gtg gcc aac	2571
Val Leu Ser Tyr Thr Asp Leu Val Gly Phe Ser Tyr Gln Val Ala Asn	
800	805
ggc atg gac ttc tta gcc tct aag aac tgt gtt cac cga gac ttg gcg	2619
Gly Met Asp Phe Leu Ala Ser Lys Asn Cys Val His Arg Asp Leu Ala	
815	820
gcc agg aat gtg ctc atc tgc gag ggc aag ctg gtc aag atc tgt gac	2667
Ala Arg Asn Val Leu Ile Cys Glu Gly Lys Leu Val Lys Ile Cys Asp	
830	835
ttc ggc ctg gct cga gac atc atg agg gac tca aac tac atc tcc aaa	2715
Phe Gly Leu Ala Arg Asp Ile Met Arg Asp Ser Asn Tyr Ile Ser Lys	
845	850
ggc agc acc tac ctg cct ctg aag tgg atg gcc cca gag agc atc ttc	2763
Gly Ser Thr Tyr Leu Pro Leu Lys Trp Met Ala Pro Glu Ser Ile Phe	
860	865
aac agc ctc tac acc act ttg agt gat gtc tgg tct ttt ggg atc cta	2811
Asn Ser Leu Tyr Thr Thr Leu Ser Asp Val Trp Ser Phe Gly Ile Leu	
880	885
ctc tgg gag atc ttc aca ctg ggt ggc acc cct tac cca gag ctg ccc	2859
Leu Trp Glu Ile Phe Thr Leu Gly Gly Thr Pro Tyr Pro Glu Leu Pro	
895	900
atg aac gac cag ttc tac aat gcc atc aag agg ggc tac cgc atg gcc	2907
Met Asn Asp Gln Phe Tyr Asn Ala Ile Lys Arg Gly Tyr Arg Met Ala	
910	915
	920

cag cct gct cat gcc tcc gac gag atc tat gag atc atg cag aaa tgc 2955
 Gln Pro Ala His Ala Ser Asp Glu Ile Tyr Glu Ile Met Gln Lys Cys
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 Trp Glu Glu Lys Phe Glu Thr Arg Pro Pro Phe Ser Gln Leu Val Leu
 940 945 950 955
 ctc ctg gag agg ctt ctg ggt gaa ggc tat aaa aag aag tac cag cag 3051
 Leu Leu Glu Arg Leu Leu Gly Glu Gly Tyr Lys Lys Lys Tyr Gln Gln
 960 965 970
 gta gat gag gag ttc ctg agg agt gac cat cct gcc atc ctg agg tcc 3099
 Val Asp Glu Glu Phe Leu Arg Ser Asp His Pro Ala Ile Leu Arg Ser
 975 980 985
 caa gcc cgc ttt ccg ggg atc cac agc ctc cga tcc cct ctg gac acc 3147
 Gln Ala Arg Phe Pro Gly Ile His Ser Leu Arg Ser Pro Leu Asp Thr
 990 995 1000
 agc tct gtt ctc tac act gcc gtg cag ccc aat gag agt gac aat gac 3195
 Ser Ser Val Leu Tyr Thr Ala Val Gln Pro Asn Glu Ser Asp Asn Asp
 1005 1010 1015
 tac atc atc ccc tta cct gac ccc aag cct gac gtt gct gat gaa ggt 3243
 Tyr Ile Ile Pro Leu Pro Asp Pro Lys Pro Asp Val Ala Asp Glu Gly
 1020 1025 1030 1035
 ctc cca gag ggg tcc ccc agc ctt gcc agt tcc acc ttg aat gaa gtc 3291
 Leu Pro Glu Gly Ser Pro Ser Leu Ala Ser Ser Thr Leu Asn Glu Val
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 aac act tcc tcc acc atc tcc tgc gac agt ccc ctg gag ctc caa gaa 3339
 Asn Thr Ser Ser Thr Ile Ser Cys Asp Ser Pro Leu Glu Leu Gln Glu
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 Glu Pro Gln Gln Ala Glu Pro Glu Ala Gln Leu Glu Gln Pro Gln Asp

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tca ggc tgc cca gga cct ctg gct gaa gca gag gac agc ttc ctg tag			3435
Ser Gly Cys Pro Gly Pro Leu Ala Glu Ala Glu Asp Ser Phe Leu			
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ccctgctagc tggttggcta gctggcatct ccccgcttgg agcagcagag gctggggagt			4935

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 agataaccca catttagaca ccggaagtgc tattttatat gctgttaagt tticctatct 5055
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<212> PRT

<213> Mus musculus

<400> 943

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 Val Ile Thr Pro Pro Gly Pro Glu Phe Val Leu Asn Ile Ser Ser Thr
 35 40 45
 Phe Val Leu Thr Cys Ser Gly Ser Ala Pro Val Met Trp Glu Gln Met
 50 55 60
 Ser Gln Val Pro Trp Gln Glu Ala Ala Met Asn Gln Asp Gly Thr Phe
 65 70 75 80
 Ser Ser Val Leu Thr Leu Thr Asn Val Thr Gly Gly Asp Thr Gly Glu
 85 90 95
 Tyr Phe Cys Val Tyr Asn Asn Ser Leu Gly Pro Glu Leu Ser Glu Arg
 100 105 110
 Lys Arg Ile Tyr Ile Phe Val Pro Asp Pro Thr Met Gly Phe Leu Pro
 115 120 125
 Met Asp Ser Glu Asp Leu Phe Ile Phe Val Thr Asp Val Thr Glu Thr
 130 135 140
 Thr Ile Pro Cys Arg Val Thr Asp Pro Gln Leu Glu Val Thr Leu His

145	150	155	160
Glu Lys Lys Val Asp Ile Pro Leu His Val Pro Tyr Asp His Gln Arg			
	165	170	175
Gly Phe Thr Gly Thr Phe Glu Asp Lys Thr Tyr Ile Cys Lys Thr Thr			
	180	185	190
Ile Gly Asp Arg Glu Val Asp Ser Asp Thr Tyr Tyr Val Tyr Ser Leu			
	195	200	205
Gln Val Ser Ser Ile Asn Val Ser Val Asn Ala Val Gln Thr Val Val			
	210	215	220
Arg Gln Gly Glu Ser Ile Thr Ile Arg Cys Ile Val Met Gly Asn Asp			
225	230	235	240
Val Val Asn Phe Gln Trp Thr Tyr Pro Arg Met Lys Ser Gly Arg Leu			
	245	250	255
Val Glu Pro Val Thr Asp Tyr Leu Phe Gly Val Pro Ser Arg Ile Gly			
	260	265	270
Ser Ile Leu His Ile Pro Thr Ala Glu Leu Ser Asp Ser Gly Thr Tyr			
	275	280	285
Thr Cys Asn Val Ser Val Ser Val Asn Asp His Gly Asp Glu Lys Ala			
	290	295	300
Ile Asn Ile Ser Val Ile Glu Asn Gly Tyr Val Arg Leu Leu Glu Thr			
305	310	315	320
Leu Gly Asp Val Glu Ile Ala Glu Leu His Arg Ser Arg Thr Leu Arg			
	325	330	335
Val Val Phe Glu Ala Tyr Pro Met Pro Ser Val Leu Trp Leu Lys Asp			
	340	345	350
Asn Arg Thr Leu Gly Asp Ser Gly Ala Gly Glu Leu Val Leu Ser Thr			
	355	360	365
Arg Asn Met Ser Glu Thr Arg Tyr Val Ser Glu Leu Ile Leu Val Arg			
	370	375	380

Val Lys Val Ser Glu Ala Gly Tyr Tyr Thr Met Arg Ala Phe His Glu
 385 390 395 400
 Asp Asp Glu Val Gln Leu Ser Phe Lys Leu Gln Val Asn Val Pro Val
 405 410 415
 Arg Val Leu Glu Leu Ser Glu Ser His Pro Ala Asn Gly Glu Gln Thr
 420 425 430
 Ile Arg Cys Arg Gly Arg Gly Met Pro Gln Pro Asn Val Thr Trp Ser
 435 440 445
 Thr Cys Arg Asp Leu Lys Arg Cys Pro Arg Lys Leu Ser Pro Thr Pro
 450 455 460
 Leu Gly Asn Ser Ser Lys Glu Glu Ser Gln Leu Glu Thr Asn Val Thr
 465 470 475 480
 Phe Trp Glu Glu Asp Gln Glu Tyr Glu Val Val Ser Thr Leu Arg Leu
 485 490 495
 Arg His Val Asp Gln Pro Leu Ser Val Arg Cys Met Leu Gln Asn Ser
 500 505 510
 Met Gly Gly Asp Ser Gln Glu Val Thr Val Val Pro His Ser Leu Pro
 515 520 525
 Phe Lys Val Val Val Ile Ser Ala Ile Leu Ala Leu Val Val Leu Thr
 530 535 540
 Val Ile Ser Leu Ile Ile Leu Ile Met Leu Trp Gln Lys Lys Pro Arg
 545 550 555 560
 Tyr Glu Ile Arg Trp Lys Val Ile Glu Ser Val Ser Ser Asp Gly His
 565 570 575
 Glu Tyr Ile Tyr Val Asp Pro Val Gln Leu Pro Tyr Asp Ser Thr Trp
 580 585 590
 Glu Leu Pro Arg Asp Gln Leu Val Leu Gly Arg Thr Leu Gly Ser Gly
 595 600 605
 Ala Phe Gly Gln Val Val Glu Ala Thr Ala His Gly Leu Ser His Ser

610	615	620
Gln Ala Thr Met Lys Val	Ala Val Lys Met Leu Lys Ser Thr Ala Arg	
625	630	635
Ser Ser Glu Lys Gln Ala Leu Met Ser Glu Leu Lys Ile Met Ser His		640
645	650	655
Leu Gly Pro His Leu Asn Val Val Asn Leu Leu Gly Ala Cys Thr Lys		
660	665	670
Gly Gly Pro Ile Tyr Ile Ile Thr Glu Tyr Cys Arg Tyr Gly Asp Leu		
675	680	685
Val Asp Tyr Leu His Arg Asn Lys His Thr Phe Leu Gln Arg His Ser		
690	695	700
Asn Lys His Cys Pro Pro Ser Ala Glu Leu Tyr Ser Asn Ala Leu Pro		
705	710	715
Val Gly Phe Ser Leu Pro Ser His Leu Asn Leu Thr Gly Glu Ser Asp		
725	730	735
Gly Gly Tyr Met Asp Met Ser Lys Asp Glu Ser Ile Asp Tyr Val Pro		
740	745	750
Met Leu Asp Met Lys Gly Asp Ile Lys Tyr Ala Asp Ile Glu Ser Pro		
755	760	765
Ser Tyr Met Ala Pro Tyr Asp Asn Tyr Val Pro Ser Ala Pro Glu Arg		
770	775	780
Thr Tyr Arg Ala Thr Leu Ile Asn Asp Ser Pro Val Leu Ser Tyr Thr		
785	790	795
Asp Leu Val Gly Phe Ser Tyr Gln Val Ala Asn Gly Met Asp Phe Leu		800
805	810	815
Ala Ser Lys Asn Cys Val His Arg Asp Leu Ala Ala Arg Asn Val Leu		
820	825	830
Ile Cys Glu Gly Lys Leu Val Lys Ile Cys Asp Phe Gly Leu Ala Arg		
835	840	845

Asp Ile Met Arg Asp Ser Asn Tyr Ile Ser Lys Gly Ser Thr Tyr Leu
 850 855 860
 Pro Leu Lys Trp Met Ala Pro Glu Ser Ile Phe Asn Ser Leu Tyr Thr
 865 870 875 880
 Thr Leu Ser Asp Val Trp Ser Phe Gly Ile Leu Leu Trp Glu Ile Phe
 885 890 895
 Thr Leu Gly Gly Thr Pro Tyr Pro Glu Leu Pro Met Asn Asp Gln Phe
 900 905 910
 Tyr Asn Ala Ile Lys Arg Gly Tyr Arg Met Ala Gln Pro Ala His Ala
 915 920 925
 Ser Asp Glu Ile Tyr Glu Ile Met Gln Lys Cys Trp Glu Glu Lys Phe
 930 935 940
 Glu Thr Arg Pro Pro Phe Ser Gln Leu Val Leu Leu Leu Glu Arg Leu
 945 950 955 960
 Leu Gly Glu Gly Tyr Lys Lys Lys Tyr Gln Gln Val Asp Glu Glu Phe
 965 970 975
 Leu Arg Ser Asp His Pro Ala Ile Leu Arg Ser Gln Ala Arg Phe Pro
 980 985 990
 Gly Ile His Ser Leu Arg Ser Pro Leu Asp Thr Ser Ser Val Leu Tyr
 995 1000 1005
 Thr Ala Val Gln Pro Asn Glu Ser Asp Asn Asp Tyr Ile Ile Pro Leu
 1010 1015 1020
 Pro Asp Pro Lys Pro Asp Val Ala Asp Glu Gly Leu Pro Glu Gly Ser
 1025 1030 1035 1040
 Pro Ser Leu Ala Ser Ser Thr Leu Asn Glu Val Asn Thr Ser Ser Thr
 1045 1050 1055
 Ile Ser Cys Asp Ser Pro Leu Glu Leu Gln Glu Glu Pro Gln Gln Ala
 1060 1065 1070
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 Pro Leu Ala Glu Ala Glu Asp Ser Phe Leu
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<210> 944

<211> 945

<212> DNA

<213> Mus musculus

<220>

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<222> (67).. (693)

<400> 944

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 Met Glu Asn Trp Asp Leu Ser Ser Asp Glu Met Gln Asp Gly
 1 5 10
 aat gct cca gaa ttg gac gtt att gaa gaa cat aat cca gta act cgt 156
 Asn Ala Pro Glu Leu Asp Val Ile Glu Glu His Asn Pro Val Thr Arg
 15 20 25 30
 gat gat gag aat gca aat cct gaa gaa gta gtt gga gat aca cga tct 204
 Asp Asp Glu Asn Ala Asn Pro Glu Glu Val Val Gly Asp Thr Arg Ser
 35 40 45
 cca gta caa aat att ctg gga aaa ttt gaa ggt gac att aac aag agg 252
 Pro Val Gln Asn Ile Leu Gly Lys Phe Glu Gly Asp Ile Asn Lys Arg
 50 55 60
 ctt cac ata aag aga aaa cgc atg gaa act tat atc aaa gat tct ttc 300
 Leu His Ile Lys Arg Lys Arg Met Glu Thr Tyr Ile Lys Asp Ser Phe

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Lys Asp Ser Asn Val Lys Leu Glu Gln Leu Trp Lys Thr Asn Lys Gln			
80	85	90	
gag aga aag aag att aac aac aaa ttt tgt gag cag tat ata act aca	396		
Glu Arg Lys Lys Ile Asn Asn Lys Phe Cys Glu Gln Tyr Ile Thr Thr			
95	100	105	110
ttt cag aag ttt gat atg gat gtc cag aaa ttc aat gaa gaa caa gaa	444		
Phe Gln Lys Phe Asp Met Asp Val Gln Lys Phe Asn Glu Glu Gln Glu			
115	120	125	
aaa tca gtg aac aat tat caa aaa gaa caa caa gca tta aaa ctg tcc	492		
Lys Ser Val Asn Asn Tyr Gln Lys Glu Gln Gln Ala Leu Lys Leu Ser			
130	135	140	
aaa tgt agt cag agc cag acc ctg gaa gca att aaa gac atg cat gaa	540		
Lys Cys Ser Gln Ser Gln Thr Leu Glu Ala Ile Lys Asp Met His Glu			
145	150	155	
aac tac atg gag ggt ctg atg aac ttg gag acc aac aac tac aat atg	588		
Asn Tyr Met Glu Gly Leu Met Asn Leu Glu Thr Asn Asn Tyr Asn Met			
160	165	170	
ctt ttt gat gta gat ggt gaa ctg aga aaa gaa atg tca gtg ttt aaa	636		
Leu Phe Asp Val Asp Gly Glu Leu Arg Lys Glu Met Ser Val Phe Lys			
175	180	185	190
aaa gac ctc atg aag cat act ctg aag tac tct tct agt ttc cca tct	684		
Lys Asp Leu Met Lys His Thr Leu Lys Tyr Ser Ser Ser Phe Pro Ser			
195	200	205	
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Ser Asp			
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<211> 208

<212> PRT

<213> Mus musculus

<400> 945

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Glu Asn Ala Asn Pro Glu Glu Val Val Gly Asp Thr Arg Ser Pro Val
35 40 45
Gln Asn Ile Leu Gly Lys Phe Glu Gly Asp Ile Asn Lys Arg Leu His
50 55 60
Ile Lys Arg Lys Arg Met Glu Thr Tyr Ile Lys Asp Ser Phe Lys Asp
65 70 75 80
Ser Asn Val Lys Leu Glu Gln Leu Trp Lys Thr Asn Lys Gln Glu Arg
85 90 95
Lys Lys Ile Asn Asn Lys Phe Cys Glu Gln Tyr Ile Thr Thr Phe Gln
100 105 110
Lys Phe Asp Met Asp Val Gln Lys Phe Asn Glu Glu Gln Glu Lys Ser
115 120 125
Val Asn Asn Tyr Gln Lys Glu Gln Gln Ala Leu Lys Leu Ser Lys Cys
130 135 140
Ser Gln Ser Gln Thr Leu Glu Ala Ile Lys Asp Met His Glu Asn Tyr
145 150 155 160

2349/2644

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<211> 407

<212> DNA

<213> Mus musculus

<400> 947

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<210> 948

<211> 2659

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (68).. (1084)

<400> 948

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Met Thr Thr Thr Leu Val Ser Ala Thr Ile Phe Asp Leu Ser
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gaa gtt tta tgc aag ggt aac aag atg ctc aac tac agc act ccc agc 157

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2354/2644

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Phe Ile His Asn Ala Glu Glu Arg Arg Ala Leu Ala Gly Gly Arg Asp	
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ctc tcc gct gac cgt ccc cgc ctc cag cat agc ttt agc ttt gct ggg	685
Leu Ser Ala Asp Arg Pro Arg Leu Gln His Ser Phe Ser Phe Ala Gly	
195 200 205	
ttt ccc agt gcc gct gcc acc gcc gct gcc acg ggg ctg ctg gac agc	733
Phe Pro Ser Ala Ala Ala Thr Ala Ala Ala Thr Gly Leu Leu Asp Ser	
210 215 220	
ccc aca tcc atc acc cca ccc cct atc ctg agc gcc gat gac ctc ttg	781
Pro Thr Ser Ile Thr Pro Pro Pro Ile Leu Ser Ala Asp Asp Leu Leu	
225 230 235	
ggc tca cct act ctg ccc gat ggc acc aat aac ccc ttc gcc ttt tcc	829
Gly Ser Pro Thr Leu Pro Asp Gly Thr Asn Asn Pro Phe Ala Phe Ser	
240 245 250	
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Ser Gln Glu Leu Ala Ser Leu Phe Ala Pro Ser Met Gly Leu Pro Gly	
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Gly Gly Ser Pro Thr Thr Phe Leu Phe Arg Pro Met Ser Glu Ser Pro	
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His Met Phe Asp Ser Pro Pro Ser Pro Gln Asp Ser Leu Ser Asp His	
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Glu Gly Tyr Leu Ser Ser Ser Ser Ser Ser His Ser Gly Ser Asp Ser	
305 310 315	
cct acc ttg gac aac tca aga cgc ctg ccc att ttc agc aga ctc tcc	1069
Pro Thr Leu Asp Asn Ser Arg Arg Leu Pro Ile Phe Ser Arg Leu Ser	

320

325

330

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Ile Ser Asp Asp

335

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2659

<210> 949

<211> 338

<212> PRT

<213> Mus musculus

<400> 949

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35 40 45

Phe Pro Arg Arg His Ser Val Thr Leu Pro Ser Ser Lys Phe His Gln

50 55 60

Asn Gln Leu Leu Ser Ser Leu Lys Gly Glu Pro Ala Pro Ser Leu Ser

65 70 75 80

Ser Arg Asp Ser Arg Phe Arg Asp Arg Ser Phe Ser Glu Gly Gly Glu

85 90 95

Arg Leu Leu Pro Thr Gln Lys Gln Pro Gly Ser Gly Gln Val Asn Ser

100 105 110

Ser Arg Tyr Lys Thr Glu Leu Cys Arg Pro Phe Glu Glu Asn Gly Ala

115 120 125

Cys Lys Tyr Gly Asp Lys Cys Gln Phe Ala His Gly Ile His Glu Leu

130 135 140

Arg Ser Leu Thr Arg His Pro Lys Tyr Lys Thr Glu Leu Cys Arg Thr

145 150 155 160

Phe His Thr Ile Gly Phe Cys Pro Tyr Gly Pro Arg Cys His Phe Ile

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His Asn Ala Glu Glu Arg Arg Ala Leu Ala Gly Gly Arg Asp Leu Ser					
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Ala Asp Arg Pro Arg Leu Gln His Ser Phe Ser Phe Ala Gly Phe Pro					
	195		200		205
Ser Ala Ala Ala Thr Ala Ala Ala Thr Gly Leu Leu Asp Ser Pro Thr					
	210		215		220
Ser Ile Thr Pro Pro Pro Ile Leu Ser Ala Asp Asp Leu Leu Gly Ser					
225		230		235	240
Pro Thr Leu Pro Asp Gly Thr Asn Asn Pro Phe Ala Phe Ser Ser Gln					
	245		250		255
Glu Leu Ala Ser Leu Phe Ala Pro Ser Met Gly Leu Pro Gly Gly Gly					
	260		265		270
Ser Pro Thr Thr Phe Leu Phe Arg Pro Met Ser Glu Ser Pro His Met					
	275		280		285
Phe Asp Ser Pro Pro Ser Pro Gln Asp Ser Leu Ser Asp His Glu Gly					
	290		295		300
Tyr Leu Ser Ser Ser Ser Ser Ser His Ser Gly Ser Asp Ser Pro Thr					
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<210> 950

<211> 490

<212> DNA

<213> Mus musculus

<400> 950


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490

<210> 951

<211> 275

<212> DNA

<213> Mus musculus

<400> 951

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cgacgacttc aactgcaaca tcttggatgc cattaagggt taccgttcaa gtgtcctcgc 180
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275

<210> 952

<211> 4512

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (1).. (4395)

<400> 952

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1 5 10 15	
gtc tgg cac ggt ccg gcg cag aac gcg gcg gcg gag aag ggt act cca	96
Val Trp His Gly Pro Ala Gln Asn Ala Ala Ala Glu Lys Gly Thr Pro	
20 25 30	
gcg ctg aac att gcg gtg ctg ctg ggt cac agc cac gac gtg aca gaa	144
Ala Leu Asn Ile Ala Val Leu Leu Gly His Ser His Asp Val Thr Glu	
35 40 45	
cgc gaa ctt cga aat ctg tgg ggc ccg gag cag gca acc ggc ttg ccc	192
Arg Glu Leu Arg Asn Leu Trp Gly Pro Glu Gln Ala Thr Gly Leu Pro	
50 55 60	
ctg gat gtg aac gtg gtg gcg tta ttg atg aac cgc act gac cct aag	240
Leu Asp Val Asn Val Val Ala Leu Leu Met Asn Arg Thr Asp Pro Lys	
65 70 75 80	
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Ser Leu Ile Thr His Val Cys Asp Leu Met Ser Gly Ala Arg Ile His	
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Leu Asp Phe Ile Ser Ser Gln Thr Phe Ile Pro Ile Leu Gly Ile His	
115 120 125	
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Gly Gly Ala Ser Met Ile Met Ala Asp Lys Asp Pro Thr Ser Thr Phe	

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Ile Met Gln Asp Tyr Asp Trp His Val Phe Ser Leu Val Thr Thr Ile			
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ttc cct ggc tac aga gac ttc atc agc ttc atc aag aca aca gtg gac			576
Phe Pro Gly Tyr Arg Asp Phe Ile Ser Phe Ile Lys Thr Thr Val Asp			
	180	185	190
aac agc ttt gtg ggc tgg gat atg cag aac gtg atc aca ctg gac acc			624
Asn Ser Phe Val Gly Trp Asp Met Gln Asn Val Ile Thr Leu Asp Thr			
	195	200	205
tct ttt gag gac gcc aag aca cag gtc cag ctg aag aag atc cac tcc			672
Ser Phe Glu Asp Ala Lys Thr Gln Val Gln Leu Lys Lys Ile His Ser			
	210	215	220
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Ser Val Ile Leu Leu Tyr Cys Ser Lys Asp Glu Ala Val Leu Ile Leu			
225	230	235	240
agc gag gct cgc tct ctt ggc ctc acc ggc tac gat ttc ttc tgg att			768
Ser Glu Ala Arg Ser Leu Gly Leu Thr Gly Tyr Asp Phe Phe Trp Ile			
	245	250	255
gtc ccc agt ttg gtc tcc ggg aac aca gag ctc atc ccc aaa gag ttt			816
Val Pro Ser Leu Val Ser Gly Asn Thr Glu Leu Ile Pro Lys Glu Phe			
	260	265	270
cca tcg ggt ctc att tca gtc tct tac gac gac tgg gac tac agt ctg			864
Pro Ser Gly Leu Ile Ser Val Ser Tyr Asp Asp Trp Asp Tyr Ser Leu			
	275	280	285
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Tyr	Gly	Gln	Thr	Glu	Lys	Pro	Glu	Thr	Pro	Leu	His	Thr	Leu	His	Gln	
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Phe	Met	Val	Asn	Val	Thr	Trp	Asp	Gly	Lys	Asp	Leu	Ser	Phe	Thr	Glu	
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Asp	Arg	Glu	Trp	Glu	Lys	Val	Gly	Lys	Trp	Glu	Asn	Gln	Thr	Leu	Arg	
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ctg	cgg	cat	gct	gtg	tgg	cca	agg	tat	aag	tcc	ttt	tct	gac	tgt	gag	1200
Leu	Arg	His	Ala	Val	Trp	Pro	Arg	Tyr	Lys	Ser	Phe	Ser	Asp	Cys	Glu	
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Pro	Asp	Asp	Asn	His	Leu	Ser	Ile	Val	Thr	Leu	Glu	Glu	Ala	Pro	Phe	
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gtc	atc	gta	gaa	gac	ata	gac	cca	ctg	act	gag	acc	tgc	gtc	agg	aac	1296
Val	Ile	Val	Glu	Asp	Ile	Asp	Pro	Leu	Thr	Glu	Thr	Cys	Val	Arg	Asn	
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acg	gta	ccc	tgt	cgg	aag	ttt	gtc	aag	atc	aac	aat	tca	acc	aac	gaa	1344
Thr	Val	Pro	Cys	Arg	Lys	Phe	Val	Lys	Ile	Asn	Asn	Ser	Thr	Asn	Glu	
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Trp Gly Leu Val Phe Asn Asn Ser Val	Pro Val Gln Asn Pro Lys Gly		
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aca acc agc aag ata atg gta tca gtg tgg gcc ttc ttt gcc gtc atc			1920
Thr Thr Ser Lys Ile Met Val Ser Val Trp Ala Phe Phe Ala Val Ile			
625	630	635	640
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Phe Leu Ala Ser Tyr Thr Ala Asn Leu Ala Ala Phe Met Ile Gln Glu			
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gag ttt gtg gac caa gtg act ggc ctc agt gac aag aag ttc cag aga			2016
Glu Phe Val Asp Gln Val Thr Gly Leu Ser Asp Lys Lys Phe Gln Arg			
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cct cat gac tat tct ccg cct ttc cga ttt ggg aca gta ccc aat gga			2064
Pro His Asp Tyr Ser Pro Pro Phe Arg Phe Gly Thr Val Pro Asn Gly			
675	680	685	
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Ser Thr Glu Arg Asn Ile Arg Asn Asn Tyr Pro Tyr Met His Gln Tyr			
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Met Thr Lys Phe Asn Gln Arg Gly Val Glu Asp Ala Leu Val Ser Leu			
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Lys Thr Gly Lys Leu Asp Ala Phe Ile Tyr Asp Ala Ala Val Leu Asn			
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tac aag gcc ggg agg gat gaa ggc tgt aaa ctg gtg acc att ggg agc			2256
Tyr Lys Ala Gly Arg Asp Glu Gly Cys Lys Leu Val Thr Ile Gly Ser			
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Gly Tyr Ile Phe Ala Thr Thr Gly Tyr Gly Ile Ala Leu Gln Lys Gly	
755	760
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Ser Pro Trp Lys Arg Gln Ile Asp Leu Ala Leu Leu Gln Phe Val Gly	
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gac ggt gag atg gaa gag ctg gag aca ctg tgg ctt acg ggc atc tgc	2400
Asp Gly Glu Met Glu Glu Leu Glu Thr Leu Trp Leu Thr Gly Ile Cys	
785	790
cac aac gag aag aat gag gtg atg agc agc cag ctg gac atc gac aac	2448
His Asn Glu Lys Asn Glu Val Met Ser Ser Gln Leu Asp Ile Asp Asn	
805	810
atg gca gga gtt ttc tac atg ctg gct gca gct atg gcc ctc agc ctc	2496
Met Ala Gly Val Phe Tyr Met Leu Ala Ala Ala Met Ala Leu Ser Leu	
820	825
atc acc ttc atc tgg gag cac ctc ttc tac tgg aag ctg cgc ttc tgc	2544
Ile Thr Phe Ile Trp Glu His Leu Phe Tyr Trp Lys Leu Arg Phe Cys	
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Phe Thr Gly Val Cys Ser Asp Arg Pro Gly Leu Leu Phe Ser Ile Ser	
850	855
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Arg Gly Ile Tyr Ser Cys Ile His Gly Val His Ile Glu Glu Lys Lys	
865	870
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Lys Ser Pro Asp Phe Asn Leu Thr Gly Ser Gln Ser Asn Met Leu Lys	
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Leu Leu Arg Ser Ala Lys Asn Ile Ser Asn Met Ser Asn Met Asn Ser	
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Ser Leu Ile Val Asp Met Val Ser Asp Lys Gly Asn Leu Ile Tyr Ser	
930 935 940	
gat aac agg tcc ttt caa ggg aag gac agt ata ttt gga gaa aac atg	2880
Asp Asn Arg Ser Phe Gln Gly Lys Asp Ser Ile Phe Gly Glu Asn Met	
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aat gaa ctg caa aca ttt gtg gcc aac agg cac aag gat agt ctc agt	2928
Asn Glu Leu Gln Thr Phe Val Ala Asn Arg His Lys Asp Ser Leu Ser	
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aac tat gtg ttt cag gga cag cat cct ctc act ctc aat gag tcc aac	2976
Asn Tyr Val Phe Gln Gly Gln His Pro Leu Thr Leu Asn Glu Ser Asn	
980 985 990	
ccc aac aca gtg gag gtg gct gtc agc act gaa tcc aaa ggg aac tcc	3024
Pro Asn Thr Val Glu Val Ala Val Ser Thr Glu Ser Lys Gly Asn Ser	
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Arg Pro Arg Gln Leu Trp Lys Lys Ser Met Glu Ser Leu Arg Gln Asp	
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tct cta aac cag aac cca gtc tcc cag agg gat gag aag act gca gag	3120
Ser Leu Asn Gln Asn Pro Val Ser Gln Arg Asp Glu Lys Thr Ala Glu	
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Asn Arg Thr His Ser Leu Lys Ser Pro Arg Tyr Leu Pro Glu Glu Val	
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Ala His Ser Asp Ile Ser Glu Thr Ser Ser Arg Ala Thr Cys His Arg	

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Glu Pro Asp Asn Asn Lys Asn His Lys Thr Lys Asp Asn Phe Lys Arg			
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Ser Met Ala Ser Lys Tyr Pro Lys Asp Cys Ser Glu Val Glu Arg Thr			
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Tyr Val Lys Thr Lys Ala Ser Ser Pro Arg Asp Lys Ile Tyr Thr Ile			
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Asp Gly Glu Lys Glu Pro Ser Phe His Leu Asp Pro Pro Gln Phe Ile			
1125	1130	1135	
gaa aac ata gtc ttg cct gag aat gtg gac ttc cca gat acc tac caa			3456
Glu Asn Ile Val Leu Pro Glu Asn Val Asp Phe Pro Asp Thr Tyr Gln			
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gat cac aat gag aat ttc cgc aag ggg gac tcc aca ctg ccc atg aac			3504
Asp His Asn Glu Asn Phe Arg Lys Gly Asp Ser Thr Leu Pro Met Asn			
1155	1160	1165	
agg aac cca cta cac aat gaa gat ggg ctt ccc aac aat gac cag tat			3552
Arg Asn Pro Leu His Asn Glu Asp Gly Leu Pro Asn Asn Asp Gln Tyr			
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aaa ctc tat gcc aag cac ttt acc ttg aaa gac aag ggt tcc cca cat			3600
Lys Leu Tyr Ala Lys His Phe Thr Leu Lys Asp Lys Gly Ser Pro His			
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Ser Glu Gly Ser Asp Arg Tyr Arg Gln Asn Ser Thr His Cys Arg Ser			
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Cys Leu Ser Asn Leu Pro Thr Tyr Ser Gly His Phe Thr Met Arg Ser
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 ccc caa ggt ctg gag gac agc aag agg agc aaa tct ctc ttg cca gac 4080
 Pro Gln Gly Leu Glu Asp Ser Lys Arg Ser Lys Ser Leu Leu Pro Asp
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 His Thr Ser Asp Asn Pro Phe Leu His Thr Tyr Gly Asp Asp Gln Arg
 1365 1370 1375

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1385

1390

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1415

1420

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1430

1435

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1455

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1460

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 50 55 60
 Leu Asp Val Asn Val Val Ala Leu Leu Met Asn Arg Thr Asp Pro Lys
 65 70 75 80
 Ser Leu Ile Thr His Val Cys Asp Leu Met Ser Gly Ala Arg Ile His
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 Gly Leu Val Phe Gly Asp Asp Thr Asp Gln Glu Ala Val Ala Gln Met
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 Leu Asp Phe Ile Ser Ser Gln Thr Phe Ile Pro Ile Leu Gly Ile His
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 Phe Gln Phe Gly Ala Ser Ile Gln Gln Gln Ala Thr Val Met Leu Lys
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 Ile Met Gln Asp Tyr Asp Trp His Val Phe Ser Leu Val Thr Thr Ile
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 Phe Pro Gly Tyr Arg Asp Phe Ile Ser Phe Ile Lys Thr Thr Val Asp
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 Asn Ser Phe Val Gly Trp Asp Met Gln Asn Val Ile Thr Leu Asp Thr
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 Ser Phe Glu Asp Ala Lys Thr Gln Val Gln Leu Lys Lys Ile His Ser
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Thr	Val	Pro	Cys	Arg	Lys	Phe	Val	Lys	Ile	Asn	Asn	Ser	Thr	Asn	Glu
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Gly	Met	Asn	Val	Lys	Lys	Cys	Cys	Lys	Gly	Phe	Cys	Ile	Asp	Ile	Leu
	450		455		460										
Lys	Lys	Leu	Ser	Arg	Thr	Val	Lys	Phe	Thr	Tyr	Asp	Leu	Tyr	Leu	Val
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Ile Gly Glu Val Val Tyr Gln Arg Ala Val Met Ala Val Gly Ser Leu			
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Thr Ile Asn Glu Glu Arg Ser Glu Val Val Asp Phe Ser Val Pro Phe			
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Val Glu Thr Gly Ile Ser Val Met Val Ser Arg Ser Asn Gly Thr Val			
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Ser Pro Ser Ala Phe Leu Glu Pro Phe Ser Ala Ser Val Trp Val Met			
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Met Phe Val Met Leu Leu Ile Val Ser Ala Ile Ala Val Phe Val Phe			
	565	570	575
Glu Tyr Phe Ser Pro Val Gly Tyr Asn Arg Asn Leu Ala Lys Gly Lys			
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Ala Pro His Gly Pro Ser Phe Thr Ile Gly Lys Ala Ile Trp Leu Leu			
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Trp Gly Leu Val Phe Asn Asn Ser Val Pro Val Gln Asn Pro Lys Gly			
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Thr Thr Ser Lys Ile Met Val Ser Val Trp Ala Phe Phe Ala Val Ile			
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Phe Leu Ala Ser Tyr Thr Ala Asn Leu Ala Ala Phe Met Ile Gln Glu			
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Glu Phe Val Asp Gln Val Thr Gly Leu Ser Asp Lys Lys Phe Gln Arg			
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Pro His Asp Tyr Ser Pro Pro Phe Arg Phe Gly Thr Val Pro Asn Gly			
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Ser Thr Glu Arg Asn Ile Arg Asn Asn Tyr Pro Tyr Met His Gln Tyr			
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Met Thr Lys Phe Asn Gln Arg Gly Val Glu Asp Ala Leu Val Ser Leu			

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Lys Thr Gly Lys Leu Asp Ala Phe Ile Tyr Asp Ala Ala Val Leu Asn			
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Tyr Lys Ala Gly Arg Asp Glu Gly Cys Lys Leu Val Thr Ile Gly Ser			
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Gly Tyr Ile Phe Ala Thr Thr Gly Tyr Gly Ile Ala Leu Gln Lys Gly			
755	760	765	
Ser Pro Trp Lys Arg Gln Ile Asp Leu Ala Leu Leu Gln Phe Val Gly			
770	775	780	
Asp Gly Glu Met Glu Glu Leu Glu Thr Leu Trp Leu Thr Gly Ile Cys			
785	790	795	800
His Asn Glu Lys Asn Glu Val Met Ser Ser Gln Leu Asp Ile Asp Asn			
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Met Ala Gly Val Phe Tyr Met Leu Ala Ala Ala Met Ala Leu Ser Leu			
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Ile Thr Phe Ile Trp Glu His Leu Phe Tyr Trp Lys Leu Arg Phe Cys			
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Arg Gly Ile Tyr Ser Cys Ile His Gly Val His Ile Glu Glu Lys Lys			
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Ser Arg Met Asp Ser Pro Lys Arg Ala Ala Asp Phe Ile Gln Arg Gly			
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Ser Leu Ile Val Asp Met Val Ser Asp Lys Gly Asn Leu Ile Tyr Ser			
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Cys Leu Ser Asn Leu Pro Thr Tyr Ser Gly His Phe Thr Met Arg Ser		1215
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	1235	1240
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	1250	1255
Glu Ala Tyr Gln Gln Asp Trp Ser Gln Asn Asn Ala Leu Gln Phe Gln		1260
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Lys Asn Lys Leu Lys Ile Asn Arg Gln His Ser Tyr Asp Asn Ile Leu		1280
	1285	1290
Asp Lys Pro Arg Glu Ile Asp Leu Ser Arg Pro Ser Arg Ser Ile Ser		1295
	1300	1305
Leu Lys Asp Arg Glu Arg Leu Leu Glu Gly Asn Leu Tyr Gly Ser Leu		1310
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Phe Ser Val Pro Ser Ser Lys Leu Leu Gly Asn Lys Ser Ser Leu Phe		1325
	1330	1335
Pro Gln Gly Leu Glu Asp Ser Lys Arg Ser Lys Ser Leu Leu Pro Asp		1340
345	1350	1355
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Leu Val Ile Gly Arg Cys Pro Ser Asp Pro Tyr Lys His Ser Leu Pro		1375
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	1395	1400
		1405

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 Asp Leu Cys Gln Glu Lys Leu Leu Val Arg Arg Gly Gln Arg Phe Arg
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Leu Thr Phe Gly Ala Val Thr Gly Pro Asp Pro Ser Glu Glu Ala Gly	
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Thr Lys Ala Arg Phe Ser Leu Ser Asp Asn Val Glu Glu Gly Ser Trp	
75	80
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Ser Ala Ser Val Leu Asp Gln Gln Asp Asn Val Leu Ser Leu Gln Leu	
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Cys Thr Pro Ala Asn Ala Pro Ile Gly Leu Tyr Arg Leu Ser Leu Glu	
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Ala Ser Thr Gly Tyr Gln Gly Ser Ser Phe Val Leu Gly His Phe Ile	
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Gln Gly Ser Val Lys Phe Ile Lys Ser Val Pro Trp Asn Phe Gly Gln	
170	175
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Phe Gln Asp Gly Ile Leu Asp Thr Cys Leu Met Leu Leu Asp Met Asn	
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	195
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Ala Ala Val Ala Cys Thr Val Leu Arg Cys Leu Gly Ile Pro Thr Arg
      285              290              295

gtg gtg acc aac tac aac tcc gcc cac gac cag aac agc aac ctg ctc 965
Val Val Thr Asn Tyr Asn Ser Ala His Asp Gln Asn Ser Asn Leu Leu
      300              305              310

atc gag tac ttc cga aat gag ttt ggg gag ctg gag acg aac aag agc 1013
Ile Glu Tyr Phe Arg Asn Glu Phe Gly Glu Leu Glu Thr Asn Lys Ser
      315              320              325

gag atg atc tgg aac ttc cac tgc tgg gtg gag tcc tgg atg acc agg 1061
Glu Met Ile Trp Asn Phe His Cys Trp Val Glu Ser Trp Met Thr Arg
      330              335              340

cca gac cta cag ccg gga tat gag ggg tgg cag gcc cta gac ccc aca 1109
Pro Asp Leu Gln Pro Gly Tyr Glu Gly Trp Gln Ala Leu Asp Pro Thr

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345	350	355	360	
cca cag gag aag agc gaa ggg aca tac tgt tgt ggc cca gtc tca gtg	1157			
Pro Gln Glu Lys Ser Glu Gly Thr Tyr Cys Cys Gly Pro Val Ser Val				
365	370	375		
cga gcc atc aag gag gga gac ctg agt acc aag tat gat gca ccc ttc	1205			
Arg Ala Ile Lys Glu Gly Asp Leu Ser Thr Lys Tyr Asp Ala Pro Phe				
380	385	390		
gtg ttt gcc gag gtc aac gct gat gtg gtg gac tgg atc cgg cag gac	1253			
Val Phe Ala Glu Val Asn Ala Asp Val Val Asp Trp Ile Arg Gln Asp				
395	400	405		
gaa ggg tct gtg ctc aaa tgg atg aac cgt tcc ttg atc gtg ggg cag	1301			
Glu Gly Ser Val Leu Lys Trp Met Asn Arg Ser Leu Ile Val Gly Gln				
410	415	420		
aag atc agc act aag agt gtg ggc cgt gat gac cgg gag gac atc acc	1349			
Lys Ile Ser Thr Lys Ser Val Gly Arg Asp Asp Arg Glu Asp Ile Thr				
425	430	435	440	
cat aca tac aag tac cca gag ggg tca ccc gag gag agg gaa gtc ttc	1397			
His Thr Tyr Lys Tyr Pro Glu Gly Ser Pro Glu Glu Arg Glu Val Phe				
445	450	455		
acc aag gcc aac cac ctg aac aaa ctg gca gag aaa gag gag aca ggg	1445			
Thr Lys Ala Asn His Leu Asn Lys Leu Ala Glu Lys Glu Glu Thr Gly				
460	465	470		
gtg gcc atg cgc atc cga gtg ggg cag tat gag cat ggc aac gac ttc	1493			
Val Ala Met Arg Ile Arg Val Gly Gln Tyr Glu His Gly Asn Asp Phe				
475	480	485		
gac gtg ttt gcc cac atc ggc aac gac acc tcg gag act cga gag tgt	1541			
Asp Val Phe Ala His Ile Gly Asn Asp Thr Ser Glu Thr Arg Glu Cys				
490	495	500		
cgt ctc ctg ctc tgt gcc cgc act gtc agc tac aac ggg gtg ctg ggg	1589			

Arg Leu Leu Leu Cys Ala Arg Thr Val Ser Tyr Asn Gly Val Leu Gly	
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515	520
ccc gag tgt ggc act gag gac atc aac ctg acc ctg gat ccc tac tct	1637
Pro Glu Cys Gly Thr Glu Asp Ile Asn Leu Thr Leu Asp Pro Tyr Ser	
525	530
535	
gag aac agc atc cca ctt cga atc ctc tac gag aag tac agc gac tgc	1685
Glu Asn Ser Ile Pro Leu Arg Ile Leu Tyr Glu Lys Tyr Ser Asp Cys	
540	545
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ctg aca gag tca aac ctc atc aag gtg cgg ggc ctt ctc atc gaa cca	1733
Leu Thr Glu Ser Asn Leu Ile Lys Val Arg Gly Leu Leu Ile Glu Pro	
555	560
565	
gct gcc aac agc tac ctg ctg gct gag aga gat ctc tac gtg gag aat	1781
Ala Ala Asn Ser Tyr Leu Leu Ala Glu Arg Asp Leu Tyr Val Glu Asn	
570	575
580	
ccc gaa atc aag atc cgg gtt ttg gga gaa ccc aag caa aac cgc aaa	1829
Pro Glu Ile Lys Ile Arg Val Leu Gly Glu Pro Lys Gln Asn Arg Lys	
585	590
595	600
ctg gtg gct gag gtg tcc ctg aag aac cca ctt tcc gat ccc ctg tat	1877
Leu Val Ala Glu Val Ser Leu Lys Asn Pro Leu Ser Asp Pro Leu Tyr	
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615	
gac tgc atc ttc act gtg gag ggg gct ggc ctg acc aag gag cag aag	1925
Asp Cys Ile Phe Thr Val Glu Gly Ala Gly Leu Thr Lys Glu Gln Lys	
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630	
tct gtg gaa gtc tca gac ccg gtg cca gcg ggc gat ttg gtc aag gca	1973
Ser Val Glu Val Ser Asp Pro Val Pro Ala Gly Asp Leu Val Lys Ala	
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645	
cgg gtc gac ctg tcc ccg act gat att ggc ctc cac aag ctg gtg gtg	2021
Arg Val Asp Leu Ser Pro Thr Asp Ile Gly Leu His Lys Leu Val Val	
650	655
660	

aac ttc cag tgt gac aag ctg aag tcg gtg aag ggt tac cgg aat gtt 2069

Asn Phe Gln Cys Asp Lys Leu Lys Ser Val Lys Gly Tyr Arg Asn Val

665

670

675

680

atc atc ggc ccg gcc taa gggacccctt cccagactca accccaccac 2117

Ile Ile Gly Pro Ala

685

ctgccaaacc ccattcaacc tggctctttat cctaagataa tgagcaactt caccccatc 2177

aggctgacat ggctgcctgg gggcctcttc agaagacagt gtacttctgg cccaatcctg 2237

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<211> 685

<212> PRT

<213> Mus musculus

<400> 955

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 35 40 45
 Gly Tyr Gln Ala Ser Val Asp Ser Leu Thr Phe Gly Ala Val Thr Gly
 50 55 60
 Pro Asp Pro Ser Glu Glu Ala Gly Thr Lys Ala Arg Phe Ser Leu Ser
 65 70 75 80
 Asp Asn Val Glu Glu Gly Ser Trp Ser Ala Ser Val Leu Asp Gln Gln
 85 90 95
 Asp Asn Val Leu Ser Leu Gln Leu Cys Thr Pro Ala Asn Ala Pro Ile
 100 105 110
 Gly Leu Tyr Arg Leu Ser Leu Glu Ala Ser Thr Gly Tyr Gln Gly Ser
 115 120 125
 Ser Phe Val Leu Gly His Phe Ile Leu Leu Tyr Asn Ala Trp Cys Pro
 130 135 140
 Ala Asp Asp Val Tyr Leu Asp Ser Glu Glu Glu Arg Arg Glu Tyr Val
 145 150 155 160
 Leu Thr Gln Gln Gly Phe Ile Tyr Gln Gly Ser Val Lys Phe Ile Lys
 165 170 175

Ser Val Pro Trp Asn Phe Gly Gln Phe Gln Asp Gly Ile Leu Asp Thr
 180 185 190
 Cys Leu Met Leu Leu Asp Met Asn Pro Lys Phe Leu Lys Asn Arg Ser
 195 200 205
 Arg Asp Cys Ser Arg Arg Ser Ser Pro Ile Tyr Val Gly Arg Val Val
 210 215 220
 Ser Asp Met Val Asn Cys Asn Asp Asp Gln Gly Val Leu Leu Gly Arg
 225 230 235 240
 Trp Asp Asn Asn Tyr Gly Asp Gly Ile Ser Pro Met Ala Trp Ile Gly
 245 250 255
 Ser Val Asp Ile Leu Arg Arg Trp Lys Glu His Gly Cys Gln Gln Val
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 Lys Tyr Gly Gln Cys Trp Val Phe Ala Ala Val Ala Cys Thr Val Leu
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 Arg Cys Leu Gly Ile Pro Thr Arg Val Val Thr Asn Tyr Asn Ser Ala
 290 295 300
 His Asp Gln Asn Ser Asn Leu Leu Ile Glu Tyr Phe Arg Asn Glu Phe
 305 310 315 320
 Gly Glu Leu Glu Thr Asn Lys Ser Glu Met Ile Trp Asn Phe His Cys
 325 330 335
 Trp Val Glu Ser Trp Met Thr Arg Pro Asp Leu Gln Pro Gly Tyr Glu
 340 345 350
 Gly Trp Gln Ala Leu Asp Pro Thr Pro Gln Glu Lys Ser Glu Gly Thr
 355 360 365
 Tyr Cys Cys Gly Pro Val Ser Val Arg Ala Ile Lys Glu Gly Asp Leu
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 Ser Thr Lys Tyr Asp Ala Pro Phe Val Phe Ala Glu Val Asn Ala Asp
 385 390 395 400
 Val Val Asp Trp Ile Arg Gln Asp Glu Gly Ser Val Leu Lys Trp Met

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Asn Arg Ser Leu Ile Val Gly Gln Lys Ile Ser Thr Lys Ser Val Gly			
420	425	430	
Arg Asp Asp Arg Glu Asp Ile Thr His Thr Tyr Lys Tyr Pro Glu Gly			
435	440	445	
Ser Pro Glu Glu Arg Glu Val Phe Thr Lys Ala Asn His Leu Asn Lys			
450	455	460	
Leu Ala Glu Lys Glu Glu Thr Gly Val Ala Met Arg Ile Arg Val Gly			
465	470	475	480
Gln Tyr Glu His Gly Asn Asp Phe Asp Val Phe Ala His Ile Gly Asn			
485	490	495	
Asp Thr Ser Glu Thr Arg Glu Cys Arg Leu Leu Leu Cys Ala Arg Thr			
500	505	510	
Val Ser Tyr Asn Gly Val Leu Gly Pro Glu Cys Gly Thr Glu Asp Ile			
515	520	525	
Asn Leu Thr Leu Asp Pro Tyr Ser Glu Asn Ser Ile Pro Leu Arg Ile			
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Leu Tyr Glu Lys Tyr Ser Asp Cys Leu Thr Glu Ser Asn Leu Ile Lys			
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Val Arg Gly Leu Leu Ile Glu Pro Ala Ala Asn Ser Tyr Leu Leu Ala			
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Glu Arg Asp Leu Tyr Val Glu Asn Pro Glu Ile Lys Ile Arg Val Leu			
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Gly Glu Pro Lys Gln Asn Arg Lys Leu Val Ala Glu Val Ser Leu Lys			
595	600	605	
Asn Pro Leu Ser Asp Pro Leu Tyr Asp Cys Ile Phe Thr Val Glu Gly			
610	615	620	
Ala Gly Leu Thr Lys Glu Gln Lys Ser Val Glu Val Ser Asp Pro Val			
625	630	635	640

Pro Ala Gly Asp Leu Val Lys Ala Arg Val Asp Leu Ser Pro Thr Asp

645

650

655

Ile Gly Leu His Lys Leu Val Val Asn Phe Gln Cys Asp Lys Leu Lys

660

665

670

Ser Val Lys Gly Tyr Arg Asn Val Ile Ile Gly Pro Ala

675

680

685

<210> 956

<211> 865

<212> DNA

<213> Mus musculus

<400> 956

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<210> 957

<211> 2278

<212> DNA

<213> *Mus musculus*

<220>

<221> CDS

<222> (30).. (260)

<400> 957

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Met Thr Asp Val Glu Thr Thr Tyr

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gca gat ttc att gct tca gga aga aca ggt aga aga aat gca ata cat 101

Ala Asp Phe Ile Ala Ser Gly Arg Thr Gly Arg Arg Asn Ala Ile His

10

15

20

gat atc ctg gtt tcc tct gca agt ggc aac agc aat gaa tta gcc tta 149

Asp Ile Leu Val Ser Ser Ala Ser Gly Asn Ser Asn Glu Leu Ala Leu

25

30

35

40

aaa cta gca ggc ctt gat atc aac aag aca gaa ggt gaa gat gat gga 197

Lys Leu Ala Gly Leu Asp Ile Asn Lys Thr Glu Gly Glu Asp Asp Gly

45

50

55

cag aga agc tcc acc gaa caa agt gga gaa gcc cag gga gaa gca gcc 245

Gln Arg Ser Ser Thr Glu Gln Ser Gly Glu Ala Gln Gly Glu Ala Ala

60

65

70

aag tct gaa agc taa cactccattc tgacggatcat caacatctga caatgtggca 300

Lys Ser Glu Ser

75

aatatacctgg cgatgctcgg atgtattcgc agccacgggt gaatcggagg ggaagaaaat 360

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<210> 958

<211> 76

<212> PRT

<213> Mus musculus

<400> 958

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				20				25					30		
Gly	Asn	Ser	Asn	Glu	Leu	Ala	Leu	Lys	Leu	Ala	Gly	Leu	Asp	Ile	Asn
			35				40					45			
Lys	Thr	Glu	Gly	Glu	Asp	Asp	Gly	Gln	Arg	Ser	Ser	Thr	Glu	Gln	Ser
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<211> 149

<212> DNA

<213> Mus musculus

<400> 959

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149

<210> 960

<211> 306

<212> DNA

<213> Mus musculus

<400> 960

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<210> 961

<211> 4886

<212> DNA

<213> Mus musculus

<400> 961

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<211> 2552

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<213> Mus musculus

<220>

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<222> (98).. (1534)

<400> 962

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Ala	Leu	Ala	Val	Asp	Glu	Gln	Glu	Ala	Ala	Val	Lys	Ser	Met	Ser	Ser	
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Leu	Gln	Ile	Lys	Glu	Glu	Lys	Ala	Lys	Ser	Asp	Thr	Asn	Gly	Val	Ile	
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Lys	Thr	Ser	Thr	Thr	Ala	Glu	Lys	Thr	Glu	Glu	Glu	Glu	Lys	Glu	Asp	
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Arg	Ala	Ala	Gln	Ser	Leu	Leu	Asn	Lys	Leu	Ile	Arg	Ser	Asn	Leu	Val	
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Asp	Asn	Thr	Asn	Gln	Val	Glu	Val	Leu	Gln	Arg	Asp	Pro	Ser	Ser	Pro	
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Leu	Tyr	Ser	Val	Lys	Ser	Phe	Glu	Glu	Leu	Arg	Leu	Lys	Pro	Gln	Leu	
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Leu	Gln	Gly	Val	Tyr	Ala	Met	Gly	Phe	Asn	Arg	Pro	Ser	Lys	Ile	Gln	
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Glu	Asn	Ala	Leu	Pro	Met	Met	Leu	Ala	Glu	Pro	Pro	Gln	Asn	Leu	Ile	
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gca	cag	tcc	cag	tct	ggt	act	ggg	aaa	aca	gct	gcc	ttt	gtc	cta	gct	547
Ala	Gln	Ser	Gln	Ser	Gly	Thr	Gly	Lys	Thr	Ala	Ala	Phe	Val	Leu	Ala	
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 Leu Ser Pro Thr Tyr Glu Leu Ala Leu Gln Thr Gly Lys Val Ile Glu
 170 175 180

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 Gln Met Gly Lys Phe His Pro Glu Leu Lys Leu Ala Tyr Ala Val Arg
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 Gly Asn Lys Leu Glu Arg Gly Gln Lys Val Ser Glu Gln Ile Val Ile
 200 205 210

ggc acc ccc ggg acc gtc ttg gac tgg tgc tcc aag ctg aag ttc att 787
 Gly Thr Pro Gly Thr Val Leu Asp Trp Cys Ser Lys Leu Lys Phe Ile
 215 220 225 230

gac ccc aag aag atc aag gtg ttt gtt ctg gac gag gct gat gtg atg 835
 Asp Pro Lys Lys Ile Lys Val Phe Val Leu Asp Glu Ala Asp Val Met
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ata gcg act cag ggc cac caa gac cag agc atc cgc atc cag agg atc 883
 Ile Ala Thr Gln Gly His Gln Asp Gln Ser Ile Arg Ile Gln Arg Ile
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Val Leu Cys Asn Asn Arg Glu Glu Lys Phe Gln Ala Leu Cys Asn Leu				
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tat ggg gcc atc acc atc gcc caa gcc atg atc ttc tgc cat acc cgc				1123
Tyr Gly Ala Ile Thr Ile Ala Gln Ala Met Ile Phe Cys His Thr Arg				
	330	335	340	
aaa aca gct agc tgg ctg gca gca gag ctc tca aaa gag ggc cac cag				1171
Lys Thr Ala Ser Trp Leu Ala Ala Glu Leu Ser Lys Glu Gly His Gln				
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gtg gcc ctg ctg agt gga gag atg atg gtg gag cag agg gct gcg gtg				1219
Val Ala Leu Leu Ser Gly Glu Met Met Val Glu Gln Arg Ala Ala Val				
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atc gag cgc ttc cga gaa ggc aaa gag aag gtt ctg gtg acc acc aac				1267
Ile Glu Arg Phe Arg Glu Gly Lys Glu Lys Val Leu Val Thr Thr Asn				
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Val Cys Ala Arg Gly Ile Asp Val Glu Gln Val Ser Val Val Ile Asn				
	395	400	405	
ttt gac ctc cct gtg gac aag gat ggg aac cca gac aat gag acc tac				1363
Phe Asp Leu Pro Val Asp Lys Asp Gly Asn Pro Asp Asn Glu Thr Tyr				
	410	415	420	
ctg cac cgc att ggg cgc act ggc cgc ttt ggc aag agg ggt ctg gcg				1411
Leu His Arg Ile Gly Arg Thr Gly Arg Phe Gly Lys Arg Gly Leu Ala				
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Val Asn Met Val Asp Ser Lys His Ser Met Asn Ile Leu Asn Arg Ile				
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Gln Glu His Phe Asn Lys Lys Ile Glu Arg Leu Asp Thr Asp Asp Leu

455

460

465

470

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Asp Glu Ile Glu Lys Ile Ala Asn

475

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<212> PRT

<213> Mus musculus

<400> 963

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 85 90 95
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 100 105 110
 Arg Pro Ser Lys Ile Gln Glu Asn Ala Leu Pro Met Met Leu Ala Glu
 115 120 125
 Pro Pro Gln Asn Leu Ile Ala Gln Ser Gln Ser Gly Thr Gly Lys Thr
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 Tyr Pro Gln Cys Leu Cys Leu Ser Pro Thr Tyr Glu Leu Ala Leu Gln
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 Thr Gly Lys Val Ile Glu Gln Met Gly Lys Phe His Pro Glu Leu Lys
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 Ser Glu Gln Ile Val Ile Gly Thr Pro Gly Thr Val Leu Asp Trp Cys
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 Ser Lys Leu Lys Phe Ile Asp Pro Lys Lys Ile Lys Val Phe Val Leu

225	230	235	240
Asp Glu Ala Asp Val Met Ile Ala Thr Gln Gly His Gln Asp Gln Ser			
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Ile Arg Ile Gln Arg Ile Val Pro Arg Asn Cys Gln Met Leu Leu Phe			
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Ser Ala Thr Phe Glu Asp Ser Val Trp Lys Phe Ala Gln Lys Val Val			
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Pro Asp Pro Asn Ile Ile Lys Leu Lys Arg Glu Glu Glu Thr Leu Asp			
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Thr Ile Lys Gln Tyr Tyr Val Leu Cys Asn Asn Arg Glu Glu Lys Phe			
305	310	315	320
Gln Ala Leu Cys Asn Leu Tyr Gly Ala Ile Thr Ile Ala Gln Ala Met			
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Ile Phe Cys His Thr Arg Lys Thr Ala Ser Trp Leu Ala Ala Glu Leu			
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Ser Lys Glu Gly His Gln Val Ala Leu Leu Ser Gly Glu Met Met Val			
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Glu Gln Arg Ala Ala Val Ile Glu Arg Phe Arg Glu Gly Lys Glu Lys			
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Val Leu Val Thr Thr Asn Val Cys Ala Arg Gly Ile Asp Val Glu Gln			
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Val Ser Val Val Ile Asn Phe Asp Leu Pro Val Asp Lys Asp Gly Asn			
	405	410	415
Pro Asp Asn Glu Thr Tyr Leu His Arg Ile Gly Arg Thr Gly Arg Phe			
	420	425	430
Gly Lys Arg Gly Leu Ala Val Asn Met Val Asp Ser Lys His Ser Met			
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Asn Ile Leu Asn Arg Ile Gln Glu His Phe Asn Lys Lys Ile Glu Arg			
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465

470

475

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<211> 3170

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (54).. (1139)

<400> 964

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Ser Lys Gln Gln Pro Thr Gln Phe Ile Asn Pro Glu Thr Pro Gly Tyr
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gtt gga ttt gca aat ctt ccc aat caa gtt cac cga aaa tca gtg aag      152
Val Gly Phe Ala Asn Leu Pro Asn Gln Val His Arg Lys Ser Val Lys
           20                25                30
aag ggg ttc gag ttc act ctc atg gtg gtt ggt gaa tct ggt cta gga      200
Lys Gly Phe Glu Phe Thr Leu Met Val Val Gly Glu Ser Gly Leu Gly
           35                40                45
aaa tca act ctc ata aac agc tta ttc ctg act gat ctc tac cca gaa      248
Lys Ser Thr Leu Ile Asn Ser Leu Phe Leu Thr Asp Leu Tyr Pro Glu
           50                55                60                65
aga att att cct gga gct gca gag aaa att gaa aga act gtc cag ata      296

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Thr Val Val Asp Thr Pro Gly Tyr Gly Asp Ala Ile Asn Cys Arg Asp	
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Cys Phe Lys Thr Ile Ile Ser Tyr Ile Asp Glu Gln Phe Glu Arg Tyr	
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Arg Leu Lys Lys Arg Ile Leu Asp Glu Ile Glu Glu His Ser Ile Lys	
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 Tyr Pro Trp Gly Val Val Glu Val Glu Asn Pro Glu His Asn Asp Phe
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<211> 361

<212> PRT

<213> Mus musculus

<400> 965

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 Glu Arg Ile Ile Pro Gly Ala Ala Glu Lys Ile Glu Arg Thr Val Gln
 65 70 75 80
 Ile Glu Ala Ser Thr Val Glu Ile Glu Glu Arg Gly Val Lys Leu Arg
 85 90 95
 Leu Thr Val Val Asp Thr Pro Gly Tyr Gly Asp Ala Ile Asn Cys Arg
 100 105 110
 Asp Cys Phe Lys Thr Ile Ile Ser Tyr Ile Asp Glu Gln Phe Glu Arg
 115 120 125
 Tyr Leu His Asp Glu Ser Gly Leu Asn Arg Arg His Ile Ile Asp Asn
 130 135 140
 Arg Val His Cys Cys Phe Tyr Phe Ile Ser Pro Phe Gly His Gly Leu

145 150 155 160
 Lys Pro Leu Asp Val Ala Phe Met Lys Ala Ile His Asn Lys Val Asn
 165 170 175
 Ile Val Pro Val Ile Ala Lys Ala Asp Thr Leu Thr Leu Lys Glu Arg
 180 185 190
 Glu Arg Leu Lys Lys Arg Ile Leu Asp Glu Ile Glu Glu His Ser Ile
 195 200 205
 Lys Ile Tyr His Leu Pro Asp Ala Glu Ser Asp Glu Asp Glu Asp Phe
 210 215 220
 Lys Glu Gln Thr Arg Leu Leu Lys Ala Ser Ile Pro Phe Ser Val Val
 225 230 235 240
 Gly Ser Asn Gln Leu Ile Glu Ala Lys Gly Lys Lys Val Arg Gly Arg
 245 250 255
 Leu Tyr Pro Trp Gly Val Val Glu Val Glu Asn Pro Glu His Asn Asp
 260 265 270
 Phe Leu Lys Leu Arg Thr Met Leu Ile Thr His Met Gln Asp Leu Gln
 275 280 285
 Glu Val Thr Gln Asp Leu His Tyr Glu Asn Phe Arg Ser Glu Arg Leu
 290 295 300
 Lys Arg Gly Gly Arg Lys Val Glu Asn Glu Asp Met Asn Lys Asp Gln
 305 310 315 320
 Ile Leu Leu Glu Lys Glu Ala Glu Leu Arg Arg Met Gln Glu Met Ile
 325 330 335
 Ala Arg Met Gln Ala Gln Met Gln Met Gln Met Gln Gly Gly Asp Ser
 340 345 350
 Asp Ser Gly Ala Leu Gly Gln His Val
 355 360

<210> 966

<211> 720

<212> DNA

<213> *Mus musculus*

<400> 966

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cttggaatgt ttagatttga ttgaagaatg aagagaagta ctcattanta atatcaatag 660
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<210> 967

<211> 986

<212> DNA

<213> *Mus musculus*

<400> 967

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aagcaggcgt tcaccctatc gtctggaagc gaaggcagga tggagttaa gctggaggct 180
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 gggggagctt ttcgggctga aaagaagacc tcgcggcagt gtttggggct gcttgaacgt 600
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 gigtacaaaa tgtggcgcgt gtgtgttacg ttagccacgg ttgtngnnnn nggngtgnntg 960
 tnnntnntggt gggnggggtt ttgtgg 986

<210> 968

<211> 604

<212> DNA

<213> Mus musculus

<400> 968

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 atatgtttgt aacctgggaa ctggtgctgg taaaggagag ttagaaaggc cattcagtta 180
 ctatgggccc ttaagaactg tgtggattgc cagaaatcct ccaggattcg cctttgttga 240
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 acattatgct tatgactgtc atcgctatag ccgacgaaga agaagcaggt cagcatctag 480
 atcccatgcc cgatccaggg gaaggcgata ctctcgctcc cgcagcagga gccgaggacg 540
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agct

604

<210> 969

<211> 696

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (85).. (681)

<400> 969

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      Met Ser Phe Ile Phe Glu Trp Ile Tyr
                1             5
aat ggc ttc agc agt gtg ctc cag ttc cta gga ctc tac aag aaa tct    159
Asn Gly Phe Ser Ser Val Leu Gln Phe Leu Gly Leu Tyr Lys Lys Ser
    10             15             20             25
gga aaa ctt gta ttc tta gga ttg gac aat gcg ggc aaa acc act ctt    207
Gly Lys Leu Val Phe Leu Gly Leu Asp Asn Ala Gly Lys Thr Thr Leu
                30             35             40
ctt cag atg ctg aaa gat gac aga cta ggc cag cac gta cca aca ctc    255
Leu Gln Met Leu Lys Asp Asp Arg Leu Gly Gln His Val Pro Thr Leu
                45             50             55
cat ccc act tca gaa gaa ctg aca att gct gga atg act ttc acc act    303
His Pro Thr Ser Glu Glu Leu Thr Ile Ala Gly Met Thr Phe Thr Thr
                60             65             70
ttt gat ctc ggt ggg cat gag caa gca cgt cgc gtt tgg aaa aat tat    351

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Phe Asp Leu Gly Gly His Glu Gln Ala Arg Arg Val Trp Lys Asn Tyr
 75 80 85
 ctc cca gcg att aat ggc ata gtt ttt ctg gtg gac tgt gcg gat cat 399
 Leu Pro Ala Ile Asn Gly Ile Val Phe Leu Val Asp Cys Ala Asp His
 90 95 100 105
 tct cgt ctc atg gaa tcc aaa gtt gag ctt aat gct tta atg act gat 447
 Ser Arg Leu Met Glu Ser Lys Val Glu Leu Asn Ala Leu Met Thr Asp
 110 115 120
 gaa aca ata tcc aac gtg cca att ctt atc ttg gga aac aaa att gac 495
 Glu Thr Ile Ser Asn Val Pro Ile Leu Ile Leu Gly Asn Lys Ile Asp
 125 130 135
 agg aca gat gca atc agt gaa gaa aaa ctc cgt gaa ata aaa ggg ctg 543
 Arg Thr Asp Ala Ile Ser Glu Glu Lys Leu Arg Glu Ile Lys Gly Leu
 140 145 150
 tac ggg cag acc aca gga aag ggg aat gtg act ctg aag gag ctg aac 591
 Tyr Gly Gln Thr Thr Gly Lys Gly Asn Val Thr Leu Lys Glu Leu Asn
 155 160 165
 gcc cgc ccc atg gaa gta ttc atg tgc agt gtg ctc aag agg caa ggc 639
 Ala Arg Pro Met Glu Val Phe Met Cys Ser Val Leu Lys Arg Gln Gly
 170 175 180 185
 tac ggc gag ggt ttc cgc tgg ctt tcc cag tat att gac tga 681
 Tyr Gly Glu Gly Phe Arg Trp Leu Ser Gln Tyr Ile Asp
 190 195
 tgttttgaca gtgaa 696

<210> 970

<211> 198

<212> PRT

<213> Mus musculus

<400> 970

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Gln Phe Leu Gly Leu Tyr Lys Lys Ser Gly Lys Leu Val Phe Leu Gly

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Leu Asp Asn Ala Gly Lys Thr Thr Leu Leu Gln Met Leu Lys Asp Asp

35 40 45

Arg Leu Gly Gln His Val Pro Thr Leu His Pro Thr Ser Glu Glu Leu

50 55 60

Thr Ile Ala Gly Met Thr Phe Thr Thr Phe Asp Leu Gly Gly His Glu

65 70 75 80

Gln Ala Arg Arg Val Trp Lys Asn Tyr Leu Pro Ala Ile Asn Gly Ile

85 90 95

Val Phe Leu Val Asp Cys Ala Asp His Ser Arg Leu Met Glu Ser Lys

100 105 110

Val Glu Leu Asn Ala Leu Met Thr Asp Glu Thr Ile Ser Asn Val Pro

115 120 125

Ile Leu Ile Leu Gly Asn Lys Ile Asp Arg Thr Asp Ala Ile Ser Glu

130 135 140

Glu Lys Leu Arg Glu Ile Lys Gly Leu Tyr Gly Gln Thr Thr Gly Lys

145 150 155 160

Gly Asn Val Thr Leu Lys Glu Leu Asn Ala Arg Pro Met Glu Val Phe

165 170 175

Met Cys Ser Val Leu Lys Arg Gln Gly Tyr Gly Glu Gly Phe Arg Trp

180 185 190

Leu Ser Gln Tyr Ile Asp

195

<210> 971

- <211> 227

<212> DNA

<213> Mus musculus

<400> 971

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taaacgtaca ctcagctagt cgatctgcat gcccagagatg ctgagtggtg ttacgaatc 180
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<210> 972

<211> 793

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (51).. (404)

<400> 972

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                                                    1
gcg ggc agc agc tgc agc cag act ccc agc cgg gcc atc ccc act cgc      104
Ala Gly Ser Ser Cys Ser Gln Thr Pro Ser Arg Ala Ile Pro Thr Arg
          5              10              15
cgc gta gcc ctc ggc gat ggc gtg cag ctc ccg ccc ggg gac tac agc      152
Arg Val Ala Leu Gly Asp Gly Val Gln Leu Pro Pro Gly Asp Tyr Ser

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acc act ccg ggc ggg acg ctc ttc agc acc acc ccg gga gga acc agg	200		
Thr Thr Pro Gly Gly Thr Leu Phe Ser Thr Thr Pro Gly Gly Thr Arg			
35	40	45	50
att atc tat gac cgg aaa ttt ctg atg gag tgt cgg aac tca cct gtg	248		
Ile Ile Tyr Asp Arg Lys Phe Leu Met Glu Cys Arg Asn Ser Pro Val			
55	60	65	
gcc aaa aca ccc cca aag gac ctg cca gcc att cct ggg gtc act agc	296		
Ala Lys Thr Pro Pro Lys Asp Leu Pro Ala Ile Pro Gly Val Thr Ser			
70	75	80	
cct acc agc gat gag cct ccc atg caa gcc agc cag agc caa ctg ccc	344		
Pro Thr Ser Asp Glu Pro Pro Met Gln Ala Ser Gln Ser Gln Leu Pro			
85	90	95	
agc agc ccg gaa gat aag cgg gca ggc ggt gaa gag tca caa ttt gag	392		
Ser Ser Pro Glu Asp Lys Arg Ala Gly Gly Glu Glu Ser Gln Phe Glu			
100	105	110	
atg gac att taa gggaccagcc gtaggacgca atgatgttc tatgtccccc	444		
Met Asp Ile			
115			
aaggcccttg ggaggagagc tgcacagcat tcaggcctca taccaggcag aactgggtg	504		
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<210> 973

<211> 117

<212> PRT

<213> Mus musculus

<400> 973

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 20 25 30
 Tyr Ser Thr Thr Pro Gly Gly Thr Leu Phe Ser Thr Thr Pro Gly Gly
 35 40 45
 Thr Arg Ile Ile Tyr Asp Arg Lys Phe Leu Met Glu Cys Arg Asn Ser
 50 55 60
 Pro Val Ala Lys Thr Pro Pro Lys Asp Leu Pro Ala Ile Pro Gly Val
 65 70 75 80
 Thr Ser Pro Thr Ser Asp Glu Pro Pro Met Gln Ala Ser Gln Ser Gln
 85 90 95
 Leu Pro Ser Ser Pro Glu Asp Lys Arg Ala Gly Gly Glu Glu Ser Gln
 100 105 110
 Phe Glu Met Asp Ile
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<210> 974

<211> 1272

<212> DNA

<213> Mus musculus

<400> 974

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tgctgggctg gacgtggact tcaccttga gagccctcag ggigtgctgt tggicagtga 240
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<210> 975

<211> 3967

<212> DNA

<213> Mus musculus

<400> 975

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<210> 976

<211> 3257

<212> DNA

<213> Mus musculus

<400> 976

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 ttaggatatt tgtataactg tataaaatga aaaaggaatt atgtggtcag tgcattgttt 3180
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<210> 977

<211> 782

<212> DNA

<213> *Mus musculus*

<220>

<221> CDS

<222> (75).. (581)

<400> 977

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 Met Ala Ala Glu Ser Leu Pro Phe Thr Leu Glu Thr
 1 5 10
 gtg tcc agc tgg gag ctg gaa gcc tgg tat gag gat ctg cag gag gtc 158
 Val Ser Ser Trp Glu Leu Glu Ala Trp Tyr Glu Asp Leu Gln Glu Val
 15 20 25
 ctg tcc tca gat gaa att ggg ggc acc tat atc tca tcc cca gga aac 206

Leu Ser Ser Asp Glu Ile Gly Gly Thr Tyr Ile Ser Ser Pro Gly Asn
 30 35 40
 gaa gag gaa gaa tca aaa acc ttc act act ctt gac cct gcg tcc cta 254
 Glu Glu Glu Glu Ser Lys Thr Phe Thr Thr Leu Asp Pro Ala Ser Leu
 45 50 55 60
 gct tgg ctg aca gag gag cca ggg cca aca gag gtc aca cgc aca tcc 302
 Ala Trp Leu Thr Glu Glu Pro Gly Pro Thr Glu Val Thr Arg Thr Ser
 65 70 75
 caa agc cct cgc tct cca gat tcc agt cag agt tct atg gcc cag gag 350
 Gln Ser Pro Arg Ser Pro Asp Ser Ser Gln Ser Ser Met Ala Gln Glu
 80 85 90
 gaa gag gag gaa gag caa gga aga act agg aaa cgg aaa cag agt ggt 398
 Glu Glu Glu Glu Glu Gln Gly Arg Thr Arg Lys Arg Lys Gln Ser Gly
 95 100 105
 cag tgc cca gcc cgg cct ggg aag caa cgc atg aag gag aag gag cag 446
 Gln Cys Pro Ala Arg Pro Gly Lys Gln Arg Met Lys Glu Lys Glu Gln
 110 115 120
 gag aac gag cgg aaa gtg gca cag cta gct gaa gag aac gag cgg ctc 494
 Glu Asn Glu Arg Lys Val Ala Gln Leu Ala Glu Glu Asn Glu Arg Leu
 125 130 135 140
 aag cag gaa atc gag cgc ctg acc agg gag gtg gag acc aca cgg cgg 542
 Lys Gln Glu Ile Glu Arg Leu Thr Arg Glu Val Glu Thr Thr Arg Arg
 145 150 155
 gct ctg atc gac cgc atg gtc agc ctg cac caa gca tga acagtgggca 591
 Ala Leu Ile Asp Arg Met Val Ser Leu His Gln Ala
 160 165
 tcacctcctg tctgtctctc cggaagtgtg cccagcacca tcgcgccagc gccaaagcatg 651
 tgaccctgca ctgcactgca catgctgagg aggggactga gggtagacca ggagagggct 711
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gtcaaaaaaa a

782

<210> 978

<211> 168

<212> PRT

<213> Mus musculus

<400> 978

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 20 25 30
 Glu Ile Gly Gly Thr Tyr Ile Ser Ser Pro Gly Asn Glu Glu Glu Glu
 35 40 45
 Ser Lys Thr Phe Thr Thr Leu Asp Pro Ala Ser Leu Ala Trp Leu Thr
 50 55 60
 Glu Glu Pro Gly Pro Thr Glu Val Thr Arg Thr Ser Gln Ser Pro Arg
 65 70 75 80
 Ser Pro Asp Ser Ser Gln Ser Ser Met Ala Gln Glu Glu Glu Glu Glu
 85 90 95
 Glu Gln Gly Arg Thr Arg Lys Arg Lys Gln Ser Gly Gln Cys Pro Ala
 100 105 110
 Arg Pro Gly Lys Gln Arg Met Lys Glu Lys Glu Gln Glu Asn Glu Arg
 115 120 125
 Lys Val Ala Gln Leu Ala Glu Glu Asn Glu Arg Leu Lys Gln Glu Ile
 130 135 140
 Glu Arg Leu Thr Arg Glu Val Glu Thr Thr Arg Arg Ala Leu Ile Asp
 145 150 155 160
 Arg Met Val Ser Leu His Gln Ala

165

<210> 979

<211> 2322

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (53).. (1600)

<400> 979

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Met Ala

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Glu Gln Val Ala Leu Ser Arg Thr Gln Val Cys Gly Ile Leu Arg Glu

5

10

15

gag ttg tac cag ggt gat gcc ttc cac caa gct gat aca cac ata ttt 154

Glu Leu Tyr Gln Gly Asp Ala Phe His Gln Ala Asp Thr His Ile Phe

20

25

30

atc atc atg ggt gca tcg ggt gac ctg gcc aag aag aag atc tat cct 202

Ile Ile Met Gly Ala Ser Gly Asp Leu Ala Lys Lys Lys Ile Tyr Pro

35

40

45

50

acc atc tgg tgg ctg ttc cgg gat ggc ctt cta cct gaa gat acc ttc 250

Thr Ile Trp Trp Leu Phe Arg Asp Gly Leu Leu Pro Glu Asp Thr Phe

55

60

65

att gtg ggc tat gcc cgc tca cga ctc aca gtg gac gac atc cga aag 298

Ile Val Gly Tyr Ala Arg Ser Arg Leu Thr Val Asp Asp Ile Arg Lys

70	75	80	
cag agt gag ccc ttc ttt aaa gcc act cca gaa gaa aga cct aag ctg			346
Gln Ser Glu Pro Phe Phe Lys Ala Thr Pro Glu Glu Arg Pro Lys Leu			
85	90	95	
gag gag ttc ttt gcc cgt aat tcc tat gta gct ggc cag tat gat gat			394
Glu Glu Phe Phe Ala Arg Asn Ser Tyr Val Ala Gly Gln Tyr Asp Asp			
100	105	110	
gca gcc tcc tat aag cac ctc aac agc cac atg aat gcc ctg cac cag			442
Ala Ala Ser Tyr Lys His Leu Asn Ser His Met Asn Ala Leu His Gln			
115	120	125	130
ggg atg cag gcc aac cgt cta ttc tac ctg gcc ttg ccc ccc aca gtc			490
Gly Met Gln Ala Asn Arg Leu Phe Tyr Leu Ala Leu Pro Pro Thr Val			
135	140	145	
tat gaa gca gtc acc aag aac att caa gag acc tgc atg agt cag aca			538
Tyr Glu Ala Val Thr Lys Asn Ile Gln Glu Thr Cys Met Ser Gln Thr			
150	155	160	
ggc tgg aac cgc atc atc gtg gag aag ccc ttc ggg aga gac cta cag			586
Gly Trp Asn Arg Ile Ile Val Glu Lys Pro Phe Gly Arg Asp Leu Gln			
165	170	175	
agc tcc aat caa ctg tcg aac cac atc tcc tct ctt ttc cgt gag gac			634
Ser Ser Asn Gln Leu Ser Asn His Ile Ser Ser Leu Phe Arg Glu Asp			
180	185	190	
cag atc tac cgc att gac cac tac ctg ggc aaa gag atg gtc cag aat			682
Gln Ile Tyr Arg Ile Asp His Tyr Leu Gly Lys Glu Met Val Gln Asn			
195	200	205	210
ctc atg gtg ctg agg ttt gcc aac agg atc ttt gga ccc atc tgg aat			730
Leu Met Val Leu Arg Phe Ala Asn Arg Ile Phe Gly Pro Ile Trp Asn			
215	220	225	
cga gac aac att gct tgt gtg atc ctc aca ttt aaa gag ccc ttt ggt			778

Arg Asp Asn Ile Ala Cys Val Ile Leu Thr Phe Lys Glu Pro Phe Gly	
230	235
act gag ggt cgt ggg ggc tat ttt gat gaa ttt ggg atc atc agg gat	826
Thr Glu Gly Arg Gly Gly Tyr Phe Asp Glu Phe Gly Ile Ile Arg Asp	
245	250
ggt atg cag aac cac ctc ctg cag atg ttg tgt ctg gtg gcc atg gaa	874
Val Met Gln Asn His Leu Leu Gln Met Leu Cys Leu Val Ala Met Glu	
260	265
aag cct gcc act aca ggt tca gat gat gtc cgt gat gag aag gtc aaa	922
Lys Pro Ala Thr Thr Gly Ser Asp Asp Val Arg Asp Glu Lys Val Lys	
275	280
gtg ttg aag tgt atc tca gag gtg gaa act gac aac gtg gtc ctt ggc	970
Val Leu Lys Cys Ile Ser Glu Val Glu Thr Asp Asn Val Val Leu Gly	
295	300
caa tat gtg ggg aac ccc aat gga gaa gga gaa gct gcc aat gga tac	1018
Gln Tyr Val Gly Asn Pro Asn Gly Glu Gly Glu Ala Ala Asn Gly Tyr	
310	315
tta gat gac ccc aca gta ccc cat ggg tcc acc act gcc act ttt gca	1066
Leu Asp Asp Pro Thr Val Pro His Gly Ser Thr Thr Ala Thr Phe Ala	
325	330
gca gct gtc ctc tat gtg gag aat gaa cgg tgg gac ggg gta ccc ttc	1114
Ala Ala Val Leu Tyr Val Glu Asn Glu Arg Trp Asp Gly Val Pro Phe	
340	345
atc ctg cgc tgt ggc aaa gcc ctg aat gaa cgc aaa gct gaa gtg aga	1162
Ile Leu Arg Cys Gly Lys Ala Leu Asn Glu Arg Lys Ala Glu Val Arg	
355	360
ctg cag ttc cga gac gtg gca ggt gac atc ttc cac caa cag tgc aag	1210
Leu Gln Phe Arg Asp Val Ala Gly Asp Ile Phe His Gln Gln Cys Lys	
375	380
	385

cgt aat gag ctg gtc atc cgt gtg cag ccc aat gag gca gta tac acc 1258
 Arg Asn Glu Leu Val Ile Arg Val Gln Pro Asn Glu Ala Val Tyr Thr
 390 395 400
 aag atg atg acc aag aag cct ggc atg ttc ttt aac cct gag gag tcg 1306
 Lys Met Met Thr Lys Lys Pro Gly Met Phe Phe Asn Pro Glu Glu Ser
 405 410 415
 gag ctg gat cta act tat ggc aac aga tac aag aat gtg aag ctc cct 1354
 Glu Leu Asp Leu Thr Tyr Gly Asn Arg Tyr Lys Asn Val Lys Leu Pro
 420 425 430
 gat gcc tat gaa cgc ctc atc ctg gat gtc ttc tgt ggg agc cag atg 1402
 Asp Ala Tyr Glu Arg Leu Ile Leu Asp Val Phe Cys Gly Ser Gln Met
 435 440 445 450
 cac ttt gtc cgg agt gat gaa ctc agg gaa gcc tgg cgt atc ttc aca 1450
 His Phe Val Arg Ser Asp Glu Leu Arg Glu Ala Trp Arg Ile Phe Thr
 455 460 465
 cca ctg ctg cac aag att gat cga gaa aag ccc cag ccc atc ccc tat 1498
 Pro Leu Leu His Lys Ile Asp Arg Glu Lys Pro Gln Pro Ile Pro Tyr
 470 475 480
 gta tat ggc agc cgc ggc ccc aca gag gca gat gag ctg atg aag aga 1546
 Val Tyr Gly Ser Arg Gly Pro Thr Glu Ala Asp Glu Leu Met Lys Arg
 485 490 495
 gtg ggc ttc cag tac gag ggt acc tac aag tgg gtg aac cct cac aag 1594
 Val Gly Phe Gln Tyr Glu Gly Thr Tyr Lys Trp Val Asn Pro His Lys
 500 505 510
 ctc tga gccctggaag ttacaccatc tatactctgc ctctcttggc caccctttct 1650
 Leu
 515
 gcattctccc ttttcacat ctaaccctat attaggacta ttgaccccat attggaagga 1710
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cctatgctgc tgccactgcc accaccagta aaccagcta cattcctcaa ataccaggca 1830
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<210> 980

<211> 515

<212> PRT

<213> Mus musculus

<400> 980

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			20					25					30		
Ile	Phe	Ile	Ile	Met	Gly	Ala	Ser	Gly	Asp	Leu	Ala	Lys	Lys	Lys	Ile
		35					40						45		
Tyr	Pro	Thr	Ile	Trp	Trp	Leu	Phe	Arg	Asp	Gly	Leu	Leu	Pro	Glu	Asp
	50					55					60				
Thr	Phe	Ile	Val	Gly	Tyr	Ala	Arg	Ser	Arg	Leu	Thr	Val	Asp	Asp	Ile
65				70						75				80	
Arg	Lys	Gln	Ser	Glu	Pro	Phe	Phe	Lys	Ala	Thr	Pro	Glu	Glu	Arg	Pro
				85						90				95	

Lys Leu Glu Glu Phe Phe Ala Arg Asn Ser Tyr Val Ala Gly Gln Tyr
 100 105 110
 Asp Asp Ala Ala Ser Tyr Lys His Leu Asn Ser His Met Asn Ala Leu
 115 120 125
 His Gln Gly Met Gln Ala Asn Arg Leu Phe Tyr Leu Ala Leu Pro Pro
 130 135 140
 Thr Val Tyr Glu Ala Val Thr Lys Asn Ile Gln Glu Thr Cys Met Ser
 145 150 155 160
 Gln Thr Gly Trp Asn Arg Ile Ile Val Glu Lys Pro Phe Gly Arg Asp
 165 170 175
 Leu Gln Ser Ser Asn Gln Leu Ser Asn His Ile Ser Ser Leu Phe Arg
 180 185 190
 Glu Asp Gln Ile Tyr Arg Ile Asp His Tyr Leu Gly Lys Glu Met Val
 195 200 205
 Gln Asn Leu Met Val Leu Arg Phe Ala Asn Arg Ile Phe Gly Pro Ile
 210 215 220
 Trp Asn Arg Asp Asn Ile Ala Cys Val Ile Leu Thr Phe Lys Glu Pro
 225 230 235 240
 Phe Gly Thr Glu Gly Arg Gly Gly Tyr Phe Asp Glu Phe Gly Ile Ile
 245 250 255
 Arg Asp Val Met Gln Asn His Leu Leu Gln Met Leu Cys Leu Val Ala
 260 265 270
 Met Glu Lys Pro Ala Thr Thr Gly Ser Asp Asp Val Arg Asp Glu Lys
 275 280 285
 Val Lys Val Leu Lys Cys Ile Ser Glu Val Glu Thr Asp Asn Val Val
 290 295 300
 Leu Gly Gln Tyr Val Gly Asn Pro Asn Gly Glu Gly Glu Ala Ala Asn
 305 310 315 320
 Gly Tyr Leu Asp Asp Pro Thr Val Pro His Gly Ser Thr Thr Ala Thr

	325		330		335
Phe	Ala	Ala	Ala	Val	Leu
Tyr	Val	Glu	Asn	Glu	Arg
Trp	Asp	Gly	Val		
	340		345		350
Pro	Phe	Ile	Leu	Arg	Cys
Gly	Lys	Ala	Leu	Asn	Glu
Arg	Lys	Ala	Glu		
	355		360		365
Val	Arg	Leu	Gln	Phe	Arg
Asp	Val	Ala	Gly	Asp	Ile
Phe	His	Gln	Gln		
	370		375		380
Cys	Lys	Arg	Asn	Glu	Leu
Val	Ile	Arg	Val	Gln	Pro
Asn	Glu	Ala	Val		
	385		390		395
					400
Tyr	Thr	Lys	Met	Met	Thr
Lys	Lys	Pro	Gly	Met	Phe
Phe	Asn	Pro	Glu		
	405		410		415
Glu	Ser	Glu	Leu	Asp	Leu
Thr	Tyr	Gly	Asn	Arg	Tyr
Lys	Asn	Val	Lys		
	420		425		430
Leu	Pro	Asp	Ala	Tyr	Glu
Arg	Leu	Ile	Leu	Asp	Val
Phe	Cys	Gly	Ser		
	435		440		445
Gln	Met	His	Phe	Val	Arg
Ser	Asp	Glu	Leu	Arg	Glu
Ala	Trp	Arg	Ile		
	450		455		460
Phe	Thr	Pro	Leu	Leu	His
Lys	Ile	Asp	Arg	Glu	Lys
Pro	Gln	Pro	Ile		
	465		470		475
					480
Pro	Tyr	Val	Tyr	Gly	Ser
Arg	Gly	Pro	Thr	Glu	Ala
Asp	Glu	Leu	Met		
	485		490		495
Lys	Arg	Val	Gly	Phe	Gln
Tyr	Glu	Gly	Thr	Tyr	Lys
Trp	Val	Asn	Pro		
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His	Lys	Leu			
	515				

<210> 981

<211> 212

<212> DNA

<213> Mus musculus

<400> 981

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attggctatg cagggaaccc ttctctgaag caagaactct tctcctaggc gattctgggc 180
tttgctgctt cataggccat ggggcgcctt gt 212

<210> 982

<211> 1234

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (92).. (1072)

<400> 982

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Met Arg Leu Pro Val Cys Leu
1 5
atc ttg cta gga ccg ctt ata gcc caa gga aca gag gaa gac tgt cct 160
Ile Leu Leu Gly Pro Leu Ile Ala Gln Gly Thr Glu Glu Asp Cys Pro
10 15 20
cac aaa aag gcc gtt act ctc ctg cca tcc ttc acg atg aca cct aca 208
His Lys Lys Ala Val Thr Leu Leu Pro Ser Phe Thr Met Thr Pro Thr
25 30 35
gcc aca gaa agc aca gcc agc cct acg acc agc cac agg ccc acc acc 256

Ala Thr Glu Ser Thr Ala Ser Pro Thr Thr Ser His Arg Pro Thr Thr	
40 45 50 55	
acc agt cac gga aat gtc aca gtt cac acc agc tcc gga ccc aca act	304
Thr Ser His Gly Asn Val Thr Val His Thr Ser Ser Gly Pro Thr Thr	
60 65 70	
gtc act cat aac cct gcc acc acc acc agt cat ggg aat gcc aca att	352
Val Thr His Asn Pro Ala Thr Thr Thr Ser His Gly Asn Ala Thr Ile	
75 80 85	
tct cat gcc aca gtt tct ccc acc aca aat ggc act gct act agt cca	400
Ser His Ala Thr Val Ser Pro Thr Thr Asn Gly Thr Ala Thr Ser Pro	
90 95 100	
aga tcc tcc act gtt ggc cct cac cct gga cca cct cca ccc tcg cct	448
Arg Ser Ser Thr Val Gly Pro His Pro Gly Pro Pro Pro Pro Ser Pro	
105 110 115	
agt cca agg tcc aag ggg gct ctt ggg aac tac acg tgg gcc aac ggc	496
Ser Pro Arg Ser Lys Gly Ala Leu Gly Asn Tyr Thr Trp Ala Asn Gly	
120 125 130 135	
tcc cag cct tgt gtt cag ctc caa gcc caa att caa atc cga atc cta	544
Ser Gln Pro Cys Val Gln Leu Gln Ala Gln Ile Gln Ile Arg Ile Leu	
140 145 150	
tac cca att cag ggt gga aga aag gct tgg ggc ata tct gtt ttg aat	592
Tyr Pro Ile Gln Gly Gly Arg Lys Ala Trp Gly Ile Ser Val Leu Asn	
155 160 165	
ccc aac aaa acc aag gtc cag gga ggt tgt gac ggt acc cat ccc cac	640
Pro Asn Lys Thr Lys Val Gln Gly Gly Cys Asp Gly Thr His Pro His	
170 175 180	
ctg tct ctc tca ttt cct tat gga cag ctt acc ttt gga ttc aaa cag	688
Leu Ser Leu Ser Phe Pro Tyr Gly Gln Leu Thr Phe Gly Phe Lys Gln	
185 190 195	

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 Asp Leu His Gln Ser Pro Ser Thr Val Tyr Leu Asp Tyr Met Ala Val
 200 205 210 215
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 Glu Tyr Asn Val Ser Phe Pro Gln Ala Ala Gln Trp Thr Phe Met Ala
 220 225 230
 cag aat tca tct ctt cga gag ctc caa gct ccc ttg ggc caa agc ttc 832
 Gln Asn Ser Ser Leu Arg Glu Leu Gln Ala Pro Leu Gly Gln Ser Phe
 235 240 245
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 Cys Cys Gly Asn Ala Ser Ile Val Leu Ser Pro Ala Val His Leu Asp
 250 255 260
 ctg ctc tct cta agg cta cag gct gct cag ctg cct gac aag gga cac 928
 Leu Leu Ser Leu Arg Leu Gln Ala Ala Gln Leu Pro Asp Lys Gly His
 265 270 275
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 Phe Gly Pro Cys Phe Ser Cys Asn Arg Asp Gln Ser Leu Leu Leu Pro
 280 285 290 295
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 Leu Ile Ile Gly Leu Val Leu Leu Gly Leu Leu Thr Leu Val Leu Ile
 300 305 310
 gcc ttc tgc atc acc cgc aga cga caa tca acc tac cag ccc ctc tga 1072
 Ala Phe Cys Ile Thr Arg Arg Arg Gln Ser Thr Tyr Gln Pro Leu
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<211> 326

<212> PRT

<213> Mus musculus

<400> 983

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35 40 45

Thr Ser His Arg Pro Thr Thr Thr Ser His Gly Asn Val Thr Val His

50 55 60

Thr Ser Ser Gly Pro Thr Thr Val Thr His Asn Pro Ala Thr Thr Thr

65 70 75 80

Ser His Gly Asn Ala Thr Ile Ser His Ala Thr Val Ser Pro Thr Thr

85 90 95

Asn Gly Thr Ala Thr Ser Pro Arg Ser Ser Thr Val Gly Pro His Pro

100 105 110

Gly Pro Pro Pro Pro Ser Pro Ser Pro Arg Ser Lys Gly Ala Leu Gly

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Asn Tyr Thr Trp Ala Asn Gly Ser Gln Pro Cys Val Gln Leu Gln Ala

130 135 140

Gln Ile Gln Ile Arg Ile Leu Tyr Pro Ile Gln Gly Gly Arg Lys Ala

145 150 155 160

Trp Gly Ile Ser Val Leu Asn Pro Asn Lys Thr Lys Val Gln Gly Gly

165 170 175

Cys Asp Gly Thr His Pro His Leu Ser Leu Ser Phe Pro Tyr Gly Gln

180 185 190

Leu Thr Phe Gly Phe Lys Gln Asp Leu His Gln Ser Pro Ser Thr Val
 195 200 205
 Tyr Leu Asp Tyr Met Ala Val Glu Tyr Asn Val Ser Phe Pro Gln Ala
 210 215 220
 Ala Gln Trp Thr Phe Met Ala Gln Asn Ser Ser Leu Arg Glu Leu Gln
 225 230 235 240
 Ala Pro Leu Gly Gln Ser Phe Cys Cys Gly Asn Ala Ser Ile Val Leu
 245 250 255
 Ser Pro Ala Val His Leu Asp Leu Leu Ser Leu Arg Leu Gln Ala Ala
 260 265 270
 Gln Leu Pro Asp Lys Gly His Phe Gly Pro Cys Phe Ser Cys Asn Arg
 275 280 285
 Asp Gln Ser Leu Leu Leu Pro Leu Ile Ile Gly Leu Val Leu Leu Gly
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 Leu Leu Thr Leu Val Leu Ile Ala Phe Cys Ile Thr Arg Arg Arg Gln
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 Ser Thr Tyr Gln Pro Leu
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Gly Cys Ala Ala His Lys Asp Thr Gln Thr Glu Ala Gly Ser Pro Phe
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gtg ggg aac cca ggg aat atc aca ggt gcc aga gga ctc acg ggg aca 145
Val Gly Asn Pro Gly Asn Ile Thr Gly Ala Arg Gly Leu Thr Gly Thr
      35              40              45
ctt cgg tgt gag ctc cag gtt cag ggg gaa ccc cct gag gtg gtg tgg 193
Leu Arg Cys Glu Leu Gln Val Gln Gly Glu Pro Pro Glu Val Val Trp
      50              55              60
ctt cga gat gga cag atc cta gaa ctg gct gat aac acc cag acc cag 241
Leu Arg Asp Gly Gln Ile Leu Glu Leu Ala Asp Asn Thr Gln Thr Gln
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Val Pro Leu Gly Glu Asp Trp Gln Asp Glu Trp Lys Val Val Ser Gln
      80              85              90              95
ctc aga atc tca gcc ctg caa ctt tca gat gca ggg gag tac cag tgt 337
Leu Arg Ile Ser Ala Leu Gln Leu Ser Asp Ala Gly Glu Tyr Gln Cys
      100              105              110
atg gtg cat cta gaa gga cgg acc ttt gtg tct cag ccg ggc ttt gta 385
Met Val His Leu Glu Gly Arg Thr Phe Val Ser Gln Pro Gly Phe Val
      115              120              125
ggg ctg gaa ggt ctc ccg tac ttc ctg gag gag cct gag gac aaa gct 433
Gly Leu Glu Gly Leu Pro Tyr Phe Leu Glu Glu Pro Glu Asp Lys Ala
      130              135              140
gtg cct gcc aac acc cct ttc aac cta agc tgc cag gcc cag gga ccc 481
Val Pro Ala Asn Thr Pro Phe Asn Leu Ser Cys Gln Ala Gln Gly Pro

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cca gtc aca gga cac agc tcc cag cac agt ctg caa act cca ggc ctg			577
Pro Val Thr Gly His Ser Ser Gln His Ser Leu Gln Thr Pro Gly Leu			
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Asn Lys Thr Ser Ser Phe Ser Cys Glu Ala His Asn Ala Lys Gly Val			
	195	200	205
acc acc tcc cgc aca gcc acc atc aca gtg ctc ccc cag agg cct cac			673
Thr Thr Ser Arg Thr Ala Thr Ile Thr Val Leu Pro Gln Arg Pro His			
	210	215	220
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His Leu His Val Val Ser Arg Gln Pro Thr Glu Leu Glu Val Ala Trp			
	225	230	235
acc cct ggc ctg agt ggc atc tac ccg ctc acc cac tgc aac ctg cag			769
Thr Pro Gly Leu Ser Gly Ile Tyr Pro Leu Thr His Cys Asn Leu Gln			
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Ala Val Leu Ser Asp Asp Gly Val Gly Ile Trp Leu Gly Lys Ser Asp			
	260	265	270
cct cct gaa gac ccc ctc acc ttg caa gta tca gtg ccc ccc cac cag			865
Pro Pro Glu Asp Pro Leu Thr Leu Gln Val Ser Val Pro Pro His Gln			
	275	280	285
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Leu Arg Leu Glu Lys Leu Leu Pro His Thr Pro Tyr His Ile Arg Ile			
	290	295	300
tcc tgc agc agc agc cag ggc ccc tca cct tgg acc cac tgg ctt cct			961

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Val	Glu	Thr	Thr	Glu	Gly	Val	Pro	Leu	Gly	Pro	Pro	Glu	Asn	Val	Ser		
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gcc	atg	cgg	aat	ggg	agc	cag	gtc	ctc	gtg	cgt	tgg	cag	gag	cca	agg	1057	
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Gln	Asp	Thr	Pro	Glu	Val	Leu	Met	Asp	Ile	Gly	Leu	Thr	Arg	Glu	Val		
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Thr	Leu	Glu	Leu	Arg	Gly	Asp	Arg	Pro	Val	Ala	Asn	Leu	Thr	Val	Ser		
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Val	Thr	Ala	Tyr	Thr	Ser	Ala	Gly	Asp	Gly	Pro	Trp	Ser	Leu	Pro	Val		
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Pro	Leu	Glu	Pro	Trp	Arg	Pro	Gly	Gln	Gly	Gln	Pro	Leu	His	His	Leu		
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Val	Ser	Glu	Pro	Pro	Pro	Arg	Ala	Phe	Ser	Trp	Pro	Trp	Trp	Tyr	Val		
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Leu	Leu	Gly	Ala	Leu	Val	Ala	Ala	Ala	Cys	Val	Leu	Ile	Leu	Ala	Leu		
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Glu Pro Thr Val Glu Arg Gly Glu Leu Val Val Arg Tyr Arg Val Arg	
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Lys Ser Tyr Ser Arg Arg Thr Thr Glu Ala Thr Leu Asn Ser Leu Gly	
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Thr Gln Met Leu Val Lys Phe Met Ala Asp Ile Ala Ser Gly Met Glu			
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Cys Met Leu Asn Glu Asn Met Ser Val Cys Val Ala Asp Phe Gly Leu			
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Ser Lys Lys Ile Tyr Asn Gly Asp Tyr Tyr Arg Gln Gly Arg Ile Ala			
690	695	700	
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Lys Met Pro Val Lys Trp Ile Ala Ile Glu Ser Leu Ala Asp Arg Val			
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Tyr Thr Ser Lys Ser Asp Val Trp Ser Phe Gly Val Thr Met Trp Glu			
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atc gcc acc cga ggc caa act ccc tat cca ggg gtg gag aac agt gag			2257
Ile Ala Thr Arg Gly Gln Thr Pro Tyr Pro Gly Val Glu Asn Ser Glu			
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Phe Leu Asp Gly Leu Tyr Ser Leu Met Ser Arg Cys Trp Glu Leu Asn
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 aca ctg aag gct ctg ccc cct gct cag gag cca gat gaa atc ctc tat 2449
 Thr Leu Lys Ala Leu Pro Pro Ala Gln Glu Pro Asp Glu Ile Leu Tyr
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 gga gga gct gac ccc cca acc caa cct gat cct aag gat tcc tgt agc 2545
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 tgt ctc act gca gct gac gtc cac tca gct gga cgc tat gtc ctt tgt 2593
 Cys Leu Thr Ala Ala Asp Val His Ser Ala Gly Arg Tyr Val Leu Cys
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 gca cct cca ggg cag gag gac gga gcc tga gacaatcttc cacctgggac 2691
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 a 4072

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<211> 888

<212> PRT

<213> Mus musculus

<400> 985

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25

30

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 Val His Leu Glu Gly Arg Thr Phe Val Ser Gln Pro Gly Phe Val Gly
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 Glu Pro Val Thr Leu Leu Trp Leu Gln Asp Ala Val Pro Leu Ala Pro
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 Val Thr Gly His Ser Ser Gln His Ser Leu Gln Thr Pro Gly Leu Asn
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 Lys Thr Ser Ser Phe Ser Cys Glu Ala His Asn Ala Lys Gly Val Thr
 195 200 205
 Thr Ser Arg Thr Ala Thr Ile Thr Val Leu Pro Gln Arg Pro His His
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 Leu His Val Val Ser Arg Gln Pro Thr Glu Leu Glu Val Ala Trp Thr
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 Pro Gly Leu Ser Gly Ile Tyr Pro Leu Thr His Cys Asn Leu Gln Ala
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 Val Leu Ser Asp Asp Gly Val Gly Ile Trp Leu Gly Lys Ser Asp Pro

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Arg Leu Glu Lys Leu Leu Pro His Thr Pro Tyr His Ile Arg Ile Ser		
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Cys Ser Ser Ser Gln Gly Pro Ser Pro Trp Thr His Trp Leu Pro Val		
305	310	315
Glu Thr Thr Glu Gly Val Pro Leu Gly Pro Pro Glu Asn Val Ser Ala		
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Met Arg Asn Gly Ser Gln Val Leu Val Arg Trp Gln Glu Pro Arg Val		
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Pro Leu Gln Gly Thr Leu Leu Gly Tyr Arg Leu Ala Tyr Arg Gly Gln		
355	360	365
Asp Thr Pro Glu Val Leu Met Asp Ile Gly Leu Thr Arg Glu Val Thr		
370	375	380
Leu Glu Leu Arg Gly Asp Arg Pro Val Ala Asn Leu Thr Val Ser Val		
385	390	395
Thr Ala Tyr Thr Ser Ala Gly Asp Gly Pro Trp Ser Leu Pro Val Pro		
405	410	415
Leu Glu Pro Trp Arg Pro Gly Gln Gly Gln Pro Leu His His Leu Val		
420	425	430
Ser Glu Pro Pro Pro Arg Ala Phe Ser Trp Pro Trp Trp Tyr Val Leu		
435	440	445
Leu Gly Ala Leu Val Ala Ala Ala Cys Val Leu Ile Leu Ala Leu Phe		
450	455	460
Leu Val His Arg Arg Lys Lys Glu Thr Arg Tyr Gly Glu Val Phe Glu		
465	470	475
Pro Thr Val Glu Arg Gly Glu Leu Val Val Arg Tyr Arg Val Arg Lys		
485	490	495

Ser Tyr Ser Arg Arg Thr Thr Glu Ala Thr Leu Asn Ser Leu Gly Ile
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 Ser Glu Glu Leu Lys Glu Lys Leu Arg Asp Val Met Val Asp Arg His
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 Lys Val Ala Leu Gly Lys Thr Leu Gly Glu Gly Glu Phe Gly Ala Val
 530 535 540
 Met Glu Gly Gln Leu Asn Gln Asp Asp Ser Ile Leu Lys Val Ala Val
 545 550 555 560
 Lys Thr Met Lys Ile Ala Ile Cys Thr Arg Ser Glu Leu Glu Asp Phe
 565 570 575
 Leu Ser Glu Ala Val Cys Met Lys Glu Phe Asp His Pro Asn Val Met
 580 585 590
 Arg Leu Ile Gly Val Cys Phe Gln Gly Ser Asp Arg Glu Gly Phe Pro
 595 600 605
 Glu Pro Val Val Ile Leu Pro Phe Met Lys His Gly Asp Leu His Ser
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 Gln Met Leu Val Lys Phe Met Ala Asp Ile Ala Ser Gly Met Glu Tyr
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 660 665 670
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 Met Pro Val Lys Trp Ile Ala Ile Glu Ser Leu Ala Asp Arg Val Tyr
 705 710 715 720
 Thr Ser Lys Ser Asp Val Trp Ser Phe Gly Val Thr Met Trp Glu Ile

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Ala Thr Arg Gly Gln Thr Pro Tyr Pro Gly Val Glu Asn Ser Glu Ile					
	740		745		750
Tyr Asp Tyr Leu Arg Gln Gly Asn Arg Leu Lys Gln Pro Val Asp Phe					
	755		760		765
Leu Asp Gly Leu Tyr Ser Leu Met Ser Arg Cys Trp Glu Leu Asn Pro					
	770		775		780
Arg Asp Arg Pro Ser Phe Ala Glu Leu Arg Glu Asp Leu Glu Asn Thr					
785		790		795	800
Leu Lys Ala Leu Pro Pro Ala Gln Glu Pro Asp Glu Ile Leu Tyr Val					
	805		810		815
Asn Met Asp Glu Gly Gly Ser His Leu Glu Pro Arg Gly Ala Ala Gly					
	820		825		830
Gly Ala Asp Pro Pro Thr Gln Pro Asp Pro Lys Asp Ser Cys Ser Cys					
	835		840		845
Leu Thr Ala Ala Asp Val His Ser Ala Gly Arg Tyr Val Leu Cys Pro					
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<211> 2582

<212> DNA

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<221> CDS

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<400> 986

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Cys Tyr Val Ala Val Ala Arg Ala Gly Gly Ile Glu Thr Ile Ala Asn
15 20 25

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Glu Tyr Ser Asp Arg Cys Thr Pro Ala Cys Val Ser Phe Gly Pro Lys
30 35 40

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Asn Arg Ser Ile Gly Ala Ala Ala Lys Ser Gln Val Ile Ser Asn Ala
45 50 55 60

aag aac aca gtt caa ggc ttt aaa aga ttc cat ggg cgt gca ttc tcc 243
Lys Asn Thr Val Gln Gly Phe Lys Arg Phe His Gly Arg Ala Phe Ser
65 70 75

gat cca ttt gtg gaa gca gaa aaa tct aat ctt gca tat gat att gtg 291
Asp Pro Phe Val Glu Ala Glu Lys Ser Asn Leu Ala Tyr Asp Ile Val
80 85 90

cag ttg ccc act gga tta acg ggc ata aag gtt aca tat atg gaa gaa 339
Gln Leu Pro Thr Gly Leu Thr Gly Ile Lys Val Thr Tyr Met Glu Glu
95 100 105

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Glu Arg Asn Phe Thr Thr Glu Gln Val Thr Ala Met Leu Leu Ser Lys
110 115 120

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Leu Lys Glu Thr Ala Glu Ser Val Leu Lys Lys Pro Val Val Asp Cys

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Val Val Ser Val Pro Ser Phe Tyr Thr Asp Ala Glu Arg Arg Ser Val				
145	150	155		
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Met Asp Ala Thr Gln Ile Ala Gly Leu Asn Cys Leu Arg Leu Met Asn				
160	165	170		
gaa aca act gca gtt gct ctt gct tat gga atc tat aaa caa gac ctc	579			
Glu Thr Thr Ala Val Ala Leu Ala Tyr Gly Ile Tyr Lys Gln Asp Leu				
175	180	185		
cct gcc tta gaa gaa aaa cca aga aat gta gtt ttt gta gat atg gga	627			
Pro Ala Leu Glu Glu Lys Pro Arg Asn Val Val Phe Val Asp Met Gly				
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cat tct gcc tat caa gtt tct gta tgt gca ttt aat aaa gga aaa ctg	675			
His Ser Ala Tyr Gln Val Ser Val Cys Ala Phe Asn Lys Gly Lys Leu				
205	210	215	220	
aaa gtt ttg gcc aca gct ttt gat aca aca ttg gga ggc aga aaa ttt	723			
Lys Val Leu Ala Thr Ala Phe Asp Thr Thr Leu Gly Gly Arg Lys Phe				
225	230	235		
gat gag gtg ttg gta aat cac ttc tgt gaa gaa ttt gga aag aaa tac	771			
Asp Glu Val Leu Val Asn His Phe Cys Glu Glu Phe Gly Lys Lys Tyr				
240	245	250		
aag cta gac ata aaa tct aaa att cgt gct tta tta cga ctg tct caa	819			
Lys Leu Asp Ile Lys Ser Lys Ile Arg Ala Leu Leu Arg Leu Ser Gln				
255	260	265		
gag tgt gag aaa ctc aag aaa ttg atg agt gcg aat gct tca gac ctc	867			
Glu Cys Glu Lys Leu Lys Lys Leu Met Ser Ala Asn Ala Ser Asp Leu				
270	275	280		
cct ttg agc att gag tgt ttt atg aat gat att gat gtg tcc gga act	915			

Pro Leu Ser Ile Glu Cys Phe Met Asn Asp Ile Asp Val Ser Gly Thr	
285	290
295	300
atg aat aga ggc aaa ttt ttg gag atg tgt gat gat ctc cta gca aga	963
Met Asn Arg Gly Lys Phe Leu Glu Met Cys Asp Asp Leu Leu Ala Arg	
305	310
315	
gtg gag ccg cca ctt cga agc gtc ttg gag caa tcc aag tta aag aaa	1011
Val Glu Pro Pro Leu Arg Ser Val Leu Glu Gln Ser Lys Leu Lys Lys	
320	325
330	
gaa gat att tat gca gtg gag ata gtt ggt ggt gcc aca cga atc cct	1059
Glu Asp Ile Tyr Ala Val Glu Ile Val Gly Gly Ala Thr Arg Ile Pro	
335	340
345	
gca gtg aaa gag aag atc agc aag ttt ttt ggt aaa gaa ctc agc aca	1107
Ala Val Lys Glu Lys Ile Ser Lys Phe Phe Gly Lys Glu Leu Ser Thr	
350	355
360	
aca tta aat gca gat gaa gct gtc act cga ggc tgt gct ctg cag tgt	1155
Thr Leu Asn Ala Asp Glu Ala Val Thr Arg Gly Cys Ala Leu Gln Cys	
365	370
375	380
gca att tta tca cct gct ttc aaa gtc aga gaa ttt tct atc act gat	1203
Ala Ile Leu Ser Pro Ala Phe Lys Val Arg Glu Phe Ser Ile Thr Asp	
385	390
395	
gtg gta cca tat cca ata tct ttg cga tgg aat tct cca gct gaa gag	1251
Val Val Pro Tyr Pro Ile Ser Leu Arg Trp Asn Ser Pro Ala Glu Glu	
400	405
410	
ggg tta agt gac tgt gaa gtc ttc ccc aaa aac cat gct gct cct ttc	1299
Gly Leu Ser Asp Cys Glu Val Phe Pro Lys Asn His Ala Ala Pro Phe	
415	420
425	
tcc aaa gtc ctc acc ttc tac aga aag gaa cct ttc act ctt gag gcc	1347
Ser Lys Val Leu Thr Phe Tyr Arg Lys Glu Pro Phe Thr Leu Glu Ala	
430	435
440	

tac tat agt tct cct cag gat ttg ccc tat cca gat cct gct ata gct	1395
Tyr Tyr Ser Ser Pro Gln Asp Leu Pro Tyr Pro Asp Pro Ala Ile Ala	
445 450 455 460	
cag ttc tca gtt cag aaa gtc act cca cag tct gat ggc tcc agc tca	1443
Gln Phe Ser Val Gln Lys Val Thr Pro Gln Ser Asp Gly Ser Ser Ser	
465 470 475	
aaa gtg aaa gtc aag gtc cgg gtg aac gtg cac ggc atc ttc agt gtg	1491
Lys Val Lys Val Lys Val Arg Val Asn Val His Gly Ile Phe Ser Val	
480 485 490	
tcc agt gcg gcc ttg gtg gag gtg cac aag tct gaa gag agt gag gag	1539
Ser Ser Ala Ala Leu Val Glu Val His Lys Ser Glu Glu Ser Glu Glu	
495 500 505	
ccc atg gag acg gat cag aat gca aag gaa gag gag aag atg caa gtg	1587
Pro Met Glu Thr Asp Gln Asn Ala Lys Glu Glu Glu Lys Met Gln Val	
510 515 520	
gac cag gaa gaa cca cat act gaa gag cag cag cag cag cca cag aca	1635
Asp Gln Glu Glu Pro His Thr Glu Glu Gln Gln Gln Gln Pro Gln Thr	
525 530 535 540	
cca gca gaa aac aag gcg gag tct gag gag atg gag aca tct caa gct	1683
Pro Ala Glu Asn Lys Ala Glu Ser Glu Glu Met Glu Thr Ser Gln Ala	
545 550 555	
gga tca aaa gat aaa aag acg gac caa cca cct caa gca aag aag gca	1731
Gly Ser Lys Asp Lys Lys Thr Asp Gln Pro Pro Gln Ala Lys Lys Ala	
560 565 570	
aaa gtg aag acc agc act gtg gac ctc ccc att gag cac acc ctc tgg	1779
Lys Val Lys Thr Ser Thr Val Asp Leu Pro Ile Glu His Thr Leu Trp	
575 580 585	
cag ctg gac cgg gag atg ctc gcc ctg tac aca gag aat gag ggt aag	1827
Gln Leu Asp Arg Glu Met Leu Ala Leu Tyr Thr Glu Asn Glu Gly Lys	

590	595	600	
atg atc atg cag gat aaa ctg gag aag gaa cgg aat gac gcc aag aat			1875
Met Ile Met Gln Asp Lys Leu Glu Lys Glu Arg Asn Asp Ala Lys Asn			
605	610	615	620
gct gtg gaa gag tat gtg tat gag atg aga gac aag ctt agt ggt gaa			1923
Ala Val Glu Glu Tyr Val Tyr Glu Met Arg Asp Lys Leu Ser Gly Glu			
625	630	635	
tat gag aag ttt gtg agt gaa gat gat cgt aat act ttt acc tta aaa			1971
Tyr Glu Lys Phe Val Ser Glu Asp Asp Arg Asn Thr Phe Thr Leu Lys			
640	645	650	
tta gag gat act gaa aat tgg ctg tat gaa gat gga gaa gat caa cca			2019
Leu Glu Asp Thr Glu Asn Trp Leu Tyr Glu Asp Gly Glu Asp Gln Pro			
655	660	665	
aag caa gtt tat gta gac aaa ttg gct gaa tta aaa agt tta ggt caa			2067
Lys Gln Val Tyr Val Asp Lys Leu Ala Glu Leu Lys Ser Leu Gly Gln			
670	675	680	
ccc att aag aca cgg ttc cag gaa tct gaa gaa aga cca aaa tta ttt			2115
Pro Ile Lys Thr Arg Phe Gln Glu Ser Glu Glu Arg Pro Lys Leu Phe			
685	690	695	700
gaa gaa cta ggg aag caa atc caa cag tat atg aaa gtg atc agc tct			2163
Glu Glu Leu Gly Lys Gln Ile Gln Gln Tyr Met Lys Val Ile Ser Ser			
705	710	715	
ttc aaa aac aag gag gac cag tat gaa cac ttg gat gct gct gac gtg			2211
Phe Lys Asn Lys Glu Asp Gln Tyr Glu His Leu Asp Ala Ala Asp Val			
720	725	730	
aca aag gta gag aaa agc acc aat gag gcg atg gag tgg atg aat agc			2259
Thr Lys Val Glu Lys Ser Thr Asn Glu Ala Met Glu Trp Met Asn Ser			
735	740	745	
aag ctt aac ctg cag aac aaa cag agc ctg acg gtg gat cca gtt gtc			2307

Lys Leu Asn Leu Gln Asn Lys Gln Ser Leu Thr Val Asp Pro Val Val
 750 755 760
 aag aca aag gag att gaa gct aaa att aag gag ctg aca agt att tgc 2355
 Lys Thr Lys Glu Ile Glu Ala Lys Ile Lys Glu Leu Thr Ser Ile Cys
 765 770 775 780
 agt cct ata att tca aaa ccc aaa ccc aaa gtg gaa ccc cca aag gag 2403
 Ser Pro Ile Ile Ser Lys Pro Lys Pro Lys Val Glu Pro Pro Lys Glu
 785 790 795
 gaa cca aaa cat gct gag cag aat gga cca gtg gat ggc caa gga gac 2451
 Glu Pro Lys His Ala Glu Gln Asn Gly Pro Val Asp Gly Gln Gly Asp
 800 805 810
 aac cca ggc tcc cag gct gct gag cac ggt gca gac aca gct gtg cct 2499
 Asn Pro Gly Ser Gln Ala Ala Glu His Gly Ala Asp Thr Ala Val Pro
 815 820 825
 tct gat ggc gac aag aag ctt cct gag atg gac att gat tga 2541
 Ser Asp Gly Asp Lys Lys Leu Pro Glu Met Asp Ile Asp
 830 835 840
 ttccaacact tgtttatatt aaaacagact attataaagc t 2582

<210> 987

<211> 841

<212> PRT

<213> Mus musculus

<400> 987

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 Val Ala Arg Ala Gly Gly Ile Glu Thr Ile Ala Asn Glu Tyr Ser Asp
 20 25 30

Arg Cys Thr Pro Ala Cys Val Ser Phe Gly Pro Lys Asn Arg Ser Ile
 35 40 45
 Gly Ala Ala Ala Lys Ser Gln Val Ile Ser Asn Ala Lys Asn Thr Val
 50 55 60
 Gln Gly Phe Lys Arg Phe His Gly Arg Ala Phe Ser Asp Pro Phe Val
 65 70 75 80
 Glu Ala Glu Lys Ser Asn Leu Ala Tyr Asp Ile Val Gln Leu Pro Thr
 85 90 95
 Gly Leu Thr Gly Ile Lys Val Thr Tyr Met Glu Glu Glu Arg Asn Phe
 100 105 110
 Thr Thr Glu Gln Val Thr Ala Met Leu Leu Ser Lys Leu Lys Glu Thr
 115 120 125
 Ala Glu Ser Val Leu Lys Lys Pro Val Val Asp Cys Val Val Ser Val
 130 135 140
 Pro Ser Phe Tyr Thr Asp Ala Glu Arg Arg Ser Val Met Asp Ala Thr
 145 150 155 160
 Gln Ile Ala Gly Leu Asn Cys Leu Arg Leu Met Asn Glu Thr Thr Ala
 165 170 175
 Val Ala Leu Ala Tyr Gly Ile Tyr Lys Gln Asp Leu Pro Ala Leu Glu
 180 185 190
 Glu Lys Pro Arg Asn Val Val Phe Val Asp Met Gly His Ser Ala Tyr
 195 200 205
 Gln Val Ser Val Cys Ala Phe Asn Lys Gly Lys Leu Lys Val Leu Ala
 210 215 220
 Thr Ala Phe Asp Thr Thr Leu Gly Gly Arg Lys Phe Asp Glu Val Leu
 225 230 235 240
 Val Asn His Phe Cys Glu Glu Phe Gly Lys Lys Tyr Lys Leu Asp Ile
 245 250 255
 Lys Ser Lys Ile Arg Ala Leu Leu Arg Leu Ser Gln Glu Cys Glu Lys

260	265	270
Leu Lys Lys Leu Met Ser Ala Asn Ala Ser Asp Leu Pro Leu Ser Ile		
275	280	285
Glu Cys Phe Met Asn Asp Ile Asp Val Ser Gly Thr Met Asn Arg Gly		
290	295	300
Lys Phe Leu Glu Met Cys Asp Asp Leu Leu Ala Arg Val Glu Pro Pro		
305	310	315
Leu Arg Ser Val Leu Glu Gln Ser Lys Leu Lys Lys Glu Asp Ile Tyr		
325	330	335
Ala Val Glu Ile Val Gly Gly Ala Thr Arg Ile Pro Ala Val Lys Glu		
340	345	350
Lys Ile Ser Lys Phe Phe Gly Lys Glu Leu Ser Thr Thr Leu Asn Ala		
355	360	365
Asp Glu Ala Val Thr Arg Gly Cys Ala Leu Gln Cys Ala Ile Leu Ser		
370	375	380
Pro Ala Phe Lys Val Arg Glu Phe Ser Ile Thr Asp Val Val Pro Tyr		
385	390	395
Pro Ile Ser Leu Arg Trp Asn Ser Pro Ala Glu Glu Gly Leu Ser Asp		
405	410	415
Cys Glu Val Phe Pro Lys Asn His Ala Ala Pro Phe Ser Lys Val Leu		
420	425	430
Thr Phe Tyr Arg Lys Glu Pro Phe Thr Leu Glu Ala Tyr Tyr Ser Ser		
435	440	445
Pro Gln Asp Leu Pro Tyr Pro Asp Pro Ala Ile Ala Gln Phe Ser Val		
450	455	460
Gln Lys Val Thr Pro Gln Ser Asp Gly Ser Ser Ser Lys Val Lys Val		
465	470	475
Lys Val Arg Val Asn Val His Gly Ile Phe Ser Val Ser Ser Ala Ala		
485	490	495

Leu Val Glu Val His Lys Ser Glu Glu Ser Glu Glu Pro Met Glu Thr
 500 505 510
 Asp Gln Asn Ala Lys Glu Glu Glu Lys Met Gln Val Asp Gln Glu Glu
 515 520 525
 Pro His Thr Glu Glu Gln Gln Gln Gln Pro Gln Thr Pro Ala Glu Asn
 530 535 540
 Lys Ala Glu Ser Glu Glu Met Glu Thr Ser Gln Ala Gly Ser Lys Asp
 545 550 555 560
 Lys Lys Thr Asp Gln Pro Pro Gln Ala Lys Lys Ala Lys Val Lys Thr
 565 570 575
 Ser Thr Val Asp Leu Pro Ile Glu His Thr Leu Trp Gln Leu Asp Arg
 580 585 590
 Glu Met Leu Ala Leu Tyr Thr Glu Asn Glu Gly Lys Met Ile Met Gln
 595 600 605
 Asp Lys Leu Glu Lys Glu Arg Asn Asp Ala Lys Asn Ala Val Glu Glu
 610 615 620
 Tyr Val Tyr Glu Met Arg Asp Lys Leu Ser Gly Glu Tyr Glu Lys Phe
 625 630 635 640
 Val Ser Glu Asp Asp Arg Asn Thr Phe Thr Leu Lys Leu Glu Asp Thr
 645 650 655
 Glu Asn Trp Leu Tyr Glu Asp Gly Glu Asp Gln Pro Lys Gln Val Tyr
 660 665 670
 Val Asp Lys Leu Ala Glu Leu Lys Ser Leu Gly Gln Pro Ile Lys Thr
 675 680 685
 Arg Phe Gln Glu Ser Glu Glu Arg Pro Lys Leu Phe Glu Glu Leu Gly
 690 695 700
 Lys Gln Ile Gln Gln Tyr Met Lys Val Ile Ser Ser Phe Lys Asn Lys
 705 710 715 720
 Glu Asp Gln Tyr Glu His Leu Asp Ala Ala Asp Val Thr Lys Val Glu

	725		730		735
Lys Ser Thr Asn Glu Ala Met Glu Trp Met Asn Ser Lys Leu Asn Leu					
	740		745		750
Gln Asn Lys Gln Ser Leu Thr Val Asp Pro Val Val Lys Thr Lys Glu					
	755		760		765
Ile Glu Ala Lys Ile Lys Glu Leu Thr Ser Ile Cys Ser Pro Ile Ile					
	770		775		780
Ser Lys Pro Lys Pro Lys Val Glu Pro Pro Lys Glu Glu Pro Lys His					
785		790		795	800
Ala Glu Gln Asn Gly Pro Val Asp Gly Gln Gly Asp Asn Pro Gly Ser					
	805		810		815
Gln Ala Ala Glu His Gly Ala Asp Thr Ala Val Pro Ser Asp Gly Asp					
	820		825		830
Lys Lys Leu Pro Glu Met Asp Ile Asp					
	835		840		

<210> 988

<211> 494

<212> DNA

<213> Mus musculus

<400> 988

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 ggacattctt ttggtctgtg agcatccctc acgagcggag aatcctaact atccttcagt 120
 ggcittccct gccagacaat gagaggcctt cagtttatgc ctctactcc gagcagcctg 180
 atttttctgg acacaagtac ggcccttttg gccctgagat gacaaatect ctgagggaga 240
 ttgacaagac cgtggggcag ttaatggacg gactgaaaca actcaagctg caccgttgtg 300
 tgaatgttat ctttgttgga gaccatggaa tggaagacgt gacatgtgac agaactgagt 360
 tcttgagcaa ctatctgact aacgtggatg atattacttt agtacctgga actctaggaa 420

gaattcgacc caagattcgc aataatccta aatatgaccc tagagccatt attgctaacc 480
 tcacgtgtag aaac 494

<210> 989

<211> 2539

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (221).. (1798)

<400> 989

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 agaggcacag acagaggcgc ggaggctccg agagagaaga cgtggaggga gggacggagc 120
 ctggacagcg gtggaccgcg gccgcgcgcg ccaggcaaag agcagcgcg agcaggcgcc 180
 gggcaccgag aggggaggca ctggtgatct ctgcccgctc atg cac aga gct ccc 235

Met His Arg Ala Pro

1 5

tct ccc aca gcg gaa cag cca cct ggc aga ggg gat aac aca cgc cgg 283

Ser Pro Thr Ala Glu Gln Pro Pro Gly Arg Gly Asp Asn Thr Arg Arg

10 15 20

acc ccc caa ccc aga ttc aag gca agt gcc cca gcc atg gca ctg cct 331

Thr Pro Gln Pro Arg Phe Lys Ala Ser Ala Pro Ala Met Ala Leu Pro

25 30 35

cgg aca ctg ggt gag cta cag ctg tat cgg gtc ctg caa cgc gcc aac 379

Arg Thr Leu Gly Glu Leu Gln Leu Tyr Arg Val Leu Gln Arg Ala Asn

40 45 50

ctc ctc tct tac tac gag acc ttc atc cag cag gga gga gat gat gta 427

Leu Leu Ser Tyr Tyr Glu Thr Phe Ile Gln Gln Gly Gly Asp Asp Val
 55 60 65
 cag cag ctg tgt gag gct ggc gag gag gag ttc ctg gaa atc atg gca 475
 Gln Gln Leu Cys Glu Ala Gly Glu Glu Glu Phe Leu Glu Ile Met Ala
 70 75 80 85
 ctc gtg ggc atg gcc acc aaa cca ctc cat gtc cga cgt cta cag aag 523
 Leu Val Gly Met Ala Thr Lys Pro Leu His Val Arg Arg Leu Gln Lys
 90 95 100
 gct ctg aga gaa tgg gcc acc aat cca ggg ctc ttc agc caa cca gtg 571
 Ala Leu Arg Glu Trp Ala Thr Asn Pro Gly Leu Phe Ser Gln Pro Val
 105 110 115
 cct gct gtg ccc gtc tcc agc atc cca ctt ttc aag atc tct gag aca 619
 Pro Ala Val Pro Val Ser Ser Ile Pro Leu Phe Lys Ile Ser Glu Thr
 120 125 130
 gct ggt acc cgg aaa ggg agc atg agc aat ggg cac ggc agc cca gga 667
 Ala Gly Thr Arg Lys Gly Ser Met Ser Asn Gly His Gly Ser Pro Gly
 135 140 145
 gaa aag gcg ggc agt gct cga agc ttt agc ccc aag agt ccc ctc gaa 715
 Glu Lys Ala Gly Ser Ala Arg Ser Phe Ser Pro Lys Ser Pro Leu Glu
 150 155 160 165
 ctt gga gag aag ttg tcg cca ctc cct gga gga cct ggg gca ggg gat 763
 Leu Gly Glu Lys Leu Ser Pro Leu Pro Gly Gly Pro Gly Ala Gly Asp
 170 175 180
 ccc cgg atc tgg cca ggc cag agc act cca gaa tct gat gtt gga gca 811
 Pro Arg Ile Trp Pro Gly Gln Ser Thr Pro Glu Ser Asp Val Gly Ala
 185 190 195
 ggg gga gaa gag gag gcc ggg tct ccc cct ttc tcc cca cct gca ggg 859
 Gly Gly Glu Glu Glu Ala Gly Ser Pro Pro Phe Ser Pro Pro Ala Gly
 200 205 210

gga gga gtc tct gaa ggg cct ggg gtt ggg ggg gtg gca gct ggt ggt	907
Gly Gly Val Ser Glu Gly Pro Gly Val Gly Gly Val Ala Ala Gly Gly	
215 220 225	
gca ggg ggt tgt cca gac cgc ctg gaa cca gag atg gtg cga atg gtg	955
Ala Gly Gly Cys Pro Asp Arg Leu Glu Pro Glu Met Val Arg Met Val	
230 235 240 245	
gtg gag agt gtt gag agg atc ttc cgg agt ttc ccc agg ggt gac act	1003
Val Glu Ser Val Glu Arg Ile Phe Arg Ser Phe Pro Arg Gly Asp Thr	
250 255 260	
gga gag atc gca tcc ctg ttg aag ctg aat aag aag ctg gcg cgg agc	1051
Gly Glu Ile Ala Ser Leu Leu Lys Leu Asn Lys Lys Leu Ala Arg Ser	
265 270 275	
gtc ggg cac atc ttt gag atg gac gat cat gac gcc cag aag gaa gag	1099
Val Gly His Ile Phe Glu Met Asp Asp His Asp Ala Gln Lys Glu Glu	
280 285 290	
gag atc cgg aag tac agc gtc atc tac ggc cgc ctg gac tcc aaa agg	1147
Glu Ile Arg Lys Tyr Ser Val Ile Tyr Gly Arg Leu Asp Ser Lys Arg	
295 300 305	
cgg gag ggc aaa cag ctt agc ttg cac gag ctg acc atc aac gag gct	1195
Arg Glu Gly Lys Gln Leu Ser Leu His Glu Leu Thr Ile Asn Glu Ala	
310 315 320 325	
gct gcc cag ttc tgc atg agg gac aac act ctt tta ctg cga agg gta	1243
Ala Ala Gln Phe Cys Met Arg Asp Asn Thr Leu Leu Leu Arg Arg Val	
330 335 340	
gaa ctc ttc tca ctg tcc cga caa gta gcc cga gag agc acc tat ctt	1291
Glu Leu Phe Ser Leu Ser Arg Gln Val Ala Arg Glu Ser Thr Tyr Leu	
345 350 355	
tct tcc ttg aag gga tcc agg ctt cac tct gaa gaa ttg gga ggg cca	1339
Ser Ser Leu Lys Gly Ser Arg Leu His Ser Glu Glu Leu Gly Gly Pro	

360	365	370	
cca ctg aag aaa ctg aaa caa gag gtt gga gaa cag agt cac aat gaa			1387
Pro Leu Lys Lys Leu Lys Gln Glu Val Gly Glu Gln Ser His Asn Glu			
375	380	385	
atc cag cag cct cct cca ggc cct gag tcc tat gca ccc cca tac cgc			1435
Ile Gln Gln Pro Pro Pro Gly Pro Glu Ser Tyr Ala Pro Pro Tyr Arg			
390	395	400	405
ccc agc cta gag gag gac agc gcc agt ctg tct ggg gag agc ctg gat			1483
Pro Ser Leu Glu Glu Asp Ser Ala Ser Leu Ser Gly Glu Ser Leu Asp			
410	415	420	
ggc cac ttg cag gct gtg ggg tcg tgc cca agg ctg acg ccg ccc cct			1531
Gly His Leu Gln Ala Val Gly Ser Cys Pro Arg Leu Thr Pro Pro Pro			
425	430	435	
gct gac ctg ccc ctg gca ttg cca gcg cat ggg cta tgg agc cgc cac			1579
Ala Asp Leu Pro Leu Ala Leu Pro Ala His Gly Leu Trp Ser Arg His			
440	445	450	
atc ttg cag cag aca ctg atg gat gag ggg ctg tgg ctc gcc cgc ctc			1627
Ile Leu Gln Gln Thr Leu Met Asp Glu Gly Leu Trp Leu Ala Arg Leu			
455	460	465	
gtc tcc cat gat cgt gtg ggc cga ctc agc ccc tgt gtg cct gcg aag			1675
Val Ser His Asp Arg Val Gly Arg Leu Ser Pro Cys Val Pro Ala Lys			
470	475	480	485
ccg cct ctc gca gag ttc gag gag ggg ttg ctg gac cgc tgc cct gcc			1723
Pro Pro Leu Ala Glu Phe Glu Glu Gly Leu Leu Asp Arg Cys Pro Ala			
490	495	500	
ccg gga cct cat cct gct ctg gtg gag ggc cgc agg agc agc gtt aaa			1771
Pro Gly Pro His Pro Ala Leu Val Glu Gly Arg Arg Ser Ser Val Lys			
505	510	515	
gtg gag gca gaa gcc agc cgg cag tga aagtggggga agtctcagac			1818

Val Glu Ala Glu Ala Ser Arg Gln

520

525

ccaggaccca gacttctggc tcacttagac cccacattc tccatccttg cactcgccac 1878
 taccctagaa ggatccttct gctgccctct gcctcccatc cgccccaatgg gcacaggact 1938
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<210> 990

<211> 525

<212> PRT

<213> Mus musculus

<400> 990

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 Asp Asn Thr Arg Arg Thr Pro Gln Pro Arg Phe Lys Ala Ser Ala Pro
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 Ala Met Ala Leu Pro Arg Thr Leu Gly Glu Leu Gln Leu Tyr Arg Val
 35 40 45
 Leu Gln Arg Ala Asn Leu Leu Ser Tyr Tyr Glu Thr Phe Ile Gln Gln

50	55	60
Gly Gly Asp Asp Val Gln Gln Leu Cys Glu Ala Gly Glu Glu Glu Phe		
65	70	75
Leu Glu Ile Met Ala Leu Val Gly Met Ala Thr Lys Pro Leu His Val		
85	90	95
Arg Arg Leu Gln Lys Ala Leu Arg Glu Trp Ala Thr Asn Pro Gly Leu		
100	105	110
Phe Ser Gln Pro Val Pro Ala Val Pro Val Ser Ser Ile Pro Leu Phe		
115	120	125
Lys Ile Ser Glu Thr Ala Gly Thr Arg Lys Gly Ser Met Ser Asn Gly		
130	135	140
His Gly Ser Pro Gly Glu Lys Ala Gly Ser Ala Arg Ser Phe Ser Pro		
145	150	155
Lys Ser Pro Leu Glu Leu Gly Glu Lys Leu Ser Pro Leu Pro Gly Gly		
165	170	175
Pro Gly Ala Gly Asp Pro Arg Ile Trp Pro Gly Gln Ser Thr Pro Glu		
180	185	190
Ser Asp Val Gly Ala Gly Gly Glu Glu Glu Ala Gly Ser Pro Pro Phe		
195	200	205
Ser Pro Pro Ala Gly Gly Gly Val Ser Glu Gly Pro Gly Val Gly Gly		
210	215	220
Val Ala Ala Gly Gly Ala Gly Gly Cys Pro Asp Arg Leu Glu Pro Glu		
225	230	235
Met Val Arg Met Val Val Glu Ser Val Glu Arg Ile Phe Arg Ser Phe		
245	250	255
Pro Arg Gly Asp Thr Gly Glu Ile Ala Ser Leu Leu Lys Leu Asn Lys		
260	265	270
Lys Leu Ala Arg Ser Val Gly His Ile Phe Glu Met Asp Asp His Asp		
275	280	285

Ala Gln Lys Glu Glu Glu Ile Arg Lys Tyr Ser Val Ile Tyr Gly Arg
 290 295 300
 Leu Asp Ser Lys Arg Arg Glu Gly Lys Gln Leu Ser Leu His Glu Leu
 305 310 315 320
 Thr Ile Asn Glu Ala Ala Ala Gln Phe Cys Met Arg Asp Asn Thr Leu
 325 330 335
 Leu Leu Arg Arg Val Glu Leu Phe Ser Leu Ser Arg Gln Val Ala Arg
 340 345 350
 Glu Ser Thr Tyr Leu Ser Ser Leu Lys Gly Ser Arg Leu His Ser Glu
 355 360 365
 Glu Leu Gly Gly Pro Pro Leu Lys Lys Leu Lys Gln Glu Val Gly Glu
 370 375 380
 Gln Ser His Asn Glu Ile Gln Gln Pro Pro Pro Gly Pro Glu Ser Tyr
 385 390 395 400
 Ala Pro Pro Tyr Arg Pro Ser Leu Glu Glu Asp Ser Ala Ser Leu Ser
 405 410 415
 Gly Glu Ser Leu Asp Gly His Leu Gln Ala Val Gly Ser Cys Pro Arg
 420 425 430
 Leu Thr Pro Pro Pro Ala Asp Leu Pro Leu Ala Leu Pro Ala His Gly
 435 440 445
 Leu Trp Ser Arg His Ile Leu Gln Gln Thr Leu Met Asp Glu Gly Leu
 450 455 460
 Trp Leu Ala Arg Leu Val Ser His Asp Arg Val Gly Arg Leu Ser Pro
 465 470 475 480
 Cys Val Pro Ala Lys Pro Pro Leu Ala Glu Phe Glu Glu Gly Leu Leu
 485 490 495
 Asp Arg Cys Pro Ala Pro Gly Pro His Pro Ala Leu Val Glu Gly Arg
 500 505 510
 Arg Ser Ser Val Lys Val Glu Ala Glu Ala Ser Arg Gln

515

520

525

<210> 991

<211> 962

<212> DNA

<213> *Mus musculus*

<400> 991

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962

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Ala Pro Gly Asp Gly Ala Gly Ala Gly Arg Gln Arg Lys Leu Glu Ala
      20           25           30
ctc atc cga gac cct cgc tcg ccc atc aac gtg gag agt ctg ctg gat 144
Leu Ile Arg Asp Pro Arg Ser Pro Ile Asn Val Glu Ser Leu Leu Asp
      35           40           45
ggc tta aat tcc ttg gtc ctt gat ttg gat ttt cct gct ttg agg aaa 192
Gly Leu Asn Ser Leu Val Leu Asp Leu Asp Phe Pro Ala Leu Arg Lys
      50           55           60
aat aaa aat ata gat aac ttc tta aat aga tat gag aaa att gtg aaa 240
Asn Lys Asn Ile Asp Asn Phe Leu Asn Arg Tyr Glu Lys Ile Val Lys
      65           70           75           80
aaa atc aga ggt tta cag atg aaa gcg gaa gac tat gat gtt gta aaa 288
Lys Ile Arg Gly Leu Gln Met Lys Ala Glu Asp Tyr Asp Val Val Lys
      85           90           95
ggt att gga aga ggt gct ttt ggt gaa gtt cag ttg gtt cgt cat aag 336
Val Ile Gly Arg Gly Ala Phe Gly Glu Val Gln Leu Val Arg His Lys
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gca tca cag aag gtt tat gca atg aag ctt ctt agt aaa ttt gaa atg 384

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130 135 140	
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gat gac agg tac ctg tac atg gtg atg gag tac atg cca ggc gga gac	528
Asp Asp Arg Tyr Leu Tyr Met Val Met Glu Tyr Met Pro Gly Gly Asp	
165 170 175	
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Leu Val Asn Leu Met Ser Asn Tyr Asp Val Pro Glu Lys Trp Ala Lys	
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Phe Tyr Thr Ala Glu Val Val Leu Ala Leu Asp Ala Ile His Ser Met	
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Gly Leu Ile His Arg Asp Val Lys Pro Asp Asn Met Leu Leu Asp Lys	
210 215 220	
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His Gly His Leu Lys Leu Ala Asp Phe Gly Thr Cys Met Lys Met Asp	
225 230 235 240	
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Glu Thr Gly Met Val His Cys Asp Thr Ala Val Gly Thr Pro Asp Tyr	
245 250 255	
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Ile Ser Pro Glu Val Leu Lys Ser Gln Gly Gly Asp Gly Tyr Tyr Gly	
260 265 270	

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275 280 285	
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Val Gly Asp Thr Pro Phe Tyr Ala Asp Ser Leu Val Gly Thr Tyr Ser	
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Lys Ile Met Asp His Lys Asn Ser Leu Cys Phe Pro Glu Asp Thr Glu	
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att tct aaa cat gcg aag aat ctc ata tgt gcc ttc tta aca gac agg	1008
Ile Ser Lys His Ala Lys Asn Leu Ile Cys Ala Phe Leu Thr Asp Arg	
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340 345 350	
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Phe Phe Lys Asn Asp Gln Trp Asn Trp Asp Asn Ile Arg Glu Thr Ala	
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Ala Pro Val Val Pro Glu Leu Ser Ser Asp Ile Asp Ser Ser Asn Phe	
370 375 380	
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385 390 395 400	
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Lys Ala Phe Val Gly Asn Gln Leu Pro Phe Ile Gly Phe Thr Tyr Phe	
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Ala Ile Gln Thr Arg Lys Ser Glu Glu Ser Gln Glu Ile Gln Lys Lys			
435	440	445	
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Leu Tyr Ala Leu Glu Glu His Leu Ser Ser Glu Val Gln Ala Lys Glu			
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Glu Leu Glu Gln Lys Cys Lys Ser Ile Asn Thr Arg Leu Glu Lys Thr			
465	470	475	480
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Ala Lys Glu Leu Glu Glu Glu Ile Thr Leu Arg Lys Ser Val Glu Ser			
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Thr Leu Arg Gln Leu Glu Arg Glu Lys Ala Leu Leu Gln His Lys Asn			
500	505	510	
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ttg gaa aat gat gtt aac agc tta aaa gat caa ctt gaa gat ctg aag			1632
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Gln Lys Gln Leu Asp Glu Ala Asn Ala Leu Leu Arg Thr Glu Ser Asp			
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Thr Gly Lys Ala Leu Leu Ala Lys Val Glu Leu Glu Lys Arg Gln Leu	
660	665
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cag gag aag ctc act gac tta gag aag gaa aaa agc aac atg gaa ata	2064
Gln Glu Lys Leu Thr Asp Leu Glu Lys Glu Lys Ser Asn Met Glu Ile	
675	680
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690	695
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	720
atc tat gaa tcc att gaa gaa gct aaa tca gaa gcc atg aaa gaa atg	2208
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755 760 765	
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Ala Gln Leu Glu Ile Thr Leu Thr Lys Ala Asp Ser Glu Gln Leu Ala			
915	920	925	
cgt tcc att gct gaa gaa caa tac tct gat ttg gaa aaa gag aag atc			2832
Arg Ser Ile Ala Glu Glu Gln Tyr Ser Asp Leu Glu Lys Glu Lys Ile			
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1180	
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 Pro Thr Leu Tyr His Phe Pro Thr Asn Cys Glu Ala Cys Met Lys Pro
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 Val Lys Lys Ile Pro Lys Lys Pro Pro Ala Pro Asp Pro Phe Ala Arg

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<212> PRT

<213> Mus musculus

<400> 993

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Gly Leu Asn Ser Leu Val Leu Asp Leu Asp Phe Pro Ala Leu Arg Lys			
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Asn Lys Asn Ile Asp Asn Phe Leu Asn Arg Tyr Glu Lys Ile Val Lys			
65	70	75	80
Lys Ile Arg Gly Leu Gln Met Lys Ala Glu Asp Tyr Asp Val Val Lys			
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Val Ile Gly Arg Gly Ala Phe Gly Glu Val Gln Leu Val Arg His Lys			
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Ala Ser Gln Lys Val Tyr Ala Met Lys Leu Leu Ser Lys Phe Glu Met			

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Asp Asp Arg Tyr Leu Tyr Met Val Met Glu Tyr Met Pro Gly Gly Asp		160
165	170	175
Leu Val Asn Leu Met Ser Asn Tyr Asp Val Pro Glu Lys Trp Ala Lys		
180	185	190
Phe Tyr Thr Ala Glu Val Val Leu Ala Leu Asp Ala Ile His Ser Met		
195	200	205
Gly Leu Ile His Arg Asp Val Lys Pro Asp Asn Met Leu Leu Asp Lys		
210	215	220
His Gly His Leu Lys Leu Ala Asp Phe Gly Thr Cys Met Lys Met Asp		
225	230	235
Glu Thr Gly Met Val His Cys Asp Thr Ala Val Gly Thr Pro Asp Tyr		240
245	250	255
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Arg Glu Cys Asp Trp Trp Ser Val Gly Val Phe Leu Phe Glu Met Leu		
275	280	285
Val Gly Asp Thr Pro Phe Tyr Ala Asp Ser Leu Val Gly Thr Tyr Ser		
290	295	300
Lys Ile Met Asp His Lys Asn Ser Leu Cys Phe Pro Glu Asp Thr Glu		
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340	345	350

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 Asp Asp Ile Glu Asp Asp Lys Gly Asp Val Glu Thr Phe Pro Ile Pro
 385 390 395 400
 Lys Ala Phe Val Gly Asn Gln Leu Pro Phe Ile Gly Phe Thr Tyr Phe
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 Arg Glu Asn Leu Leu Leu Ser Asp Ser Pro Pro Cys Arg Glu Asn Asp
 420 425 430
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 435 440 445
 Leu Tyr Ala Leu Glu Glu His Leu Ser Ser Glu Val Gln Ala Lys Glu
 450 455 460
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 465 470 475 480
 Ala Lys Glu Leu Glu Glu Glu Ile Thr Leu Arg Lys Ser Val Glu Ser
 485 490 495
 Thr Leu Arg Gln Leu Glu Arg Glu Lys Ala Leu Leu Gln His Lys Asn
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 515 520 525
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 565 570 575
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Gln Gln Leu Glu Ser Asn Asn Arg Asp Leu Gln Asp Lys Asn Cys Leu		
595	600	605
Leu Glu Thr Ala Lys Leu Lys Leu Glu Lys Glu Phe Ile Asn Leu Gln		
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Ser Ala Leu Glu Ser Glu Arg Arg Asp Arg Thr His Gly Ser Glu Ile		
625	630	635
Ile Asn Asp Leu Gln Gly Arg Ile Ser Gly Leu Glu Glu Asp Leu Lys		
645	650	655
Thr Gly Lys Ala Leu Leu Ala Lys Val Glu Leu Glu Lys Arg Gln Leu		
660	665	670
Gln Glu Lys Leu Thr Asp Leu Glu Lys Glu Lys Ser Asn Met Glu Ile		
675	680	685
Asp Met Thr Tyr Gln Leu Lys Val Ile Gln Gln Ser Leu Glu Gln Glu		
690	695	700
Glu Ala Glu His Lys Thr Thr Lys Ala Arg Leu Ala Asp Lys Asn Lys		
705	710	715
Ile Tyr Glu Ser Ile Glu Glu Ala Lys Ser Glu Ala Met Lys Glu Met		
725	730	735
Glu Lys Lys Leu Leu Glu Glu Arg Ser Leu Lys Gln Lys Val Glu Asn		
740	745	750
Leu Leu Leu Glu Ala Glu Lys Arg Cys Ser Ile Leu Asp Cys Asp Leu		
755	760	765
Lys Gln Ser Gln Gln Lys Leu Asn Glu Leu Leu Lys Gln Lys Asp Val		
770	775	780
Leu Asn Glu Asp Val Arg Asn Leu Thr Leu Lys Ile Glu Gln Glu Thr		
785	790	795
Gln Lys Arg Cys Leu Met Gln Asn Asp Leu Lys Met Gln Thr Gln Gln		
805	810	815

Val Asn Thr Leu Lys Met Ser Glu Lys Gln Ile Lys Gln Glu Asn Asn
 820 825 830
 His Leu Met Glu Met Lys Met Asn Leu Glu Lys Gln Asn Thr Glu Leu
 835 840 845
 Arg Lys Glu Arg Gln Asp Ala Asp Gly Gln Met Lys Glu Leu Gln Asp
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 Ile Met Asn Arg Lys Glu Pro Val Lys Arg Gly Ser Asp Thr Asp Val

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Leu Gln Met Thr Leu Asp Ser Lys Asp Ser Asp Ile Glu Gln Leu Arg		
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Leu Glu Gly Trp Leu Ser Leu Pro Val Arg Asn Asn Thr Lys Lys Phe		
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Gly Trp Val Lys Lys Tyr Val Ile Val Ser Ser Lys Lys Ile Leu Phe		
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Tyr Asp Ser Glu Gln Asp Lys Glu Gln Ser Asn Pro Tyr Met Val Leu		
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Asp Ile Asp Lys Leu Phe His Val Arg Pro Val Thr Gln Thr Asp Val		
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Tyr Arg Ala Asp Ala Lys Glu Ile Pro Arg Ile Phe Gln Ile Leu Tyr		
1220	1225	1230
Ala Asn Glu Gly Glu Ser Lys Lys Glu Pro Glu Phe Pro Val Glu Pro		
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Val Gly Glu Lys Ser Asn Tyr Ile Cys His Lys Gly His Glu Phe Ile		
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Pro Thr Leu Tyr His Phe Pro Thr Asn Cys Glu Ala Cys Met Lys Pro		
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		1280

Leu Trp His Met Phe Lys Pro Pro Pro Ala Leu Glu Cys Arg Arg Cys
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Val Lys Lys Ile Pro Lys Lys Pro Pro Ala Pro Asp Pro Phe Ala Arg
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<212> DNA

<213> Mus musculus

<400> 994

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<210> 996

<211> 609

<212> DNA

<213> Mus musculus

<400> 996

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<211> 504

<212> DNA

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<400> 997

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<211> 443

<212> DNA

<213> Mus musculus

<400> 998

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<211> 233

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<211> 3135

<212> DNA

<213> Mus musculus

<220>

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<222> (917).. (1921)

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Met Thr Ala Lys Met Glu Thr Thr Phe Tyr Asp Asp

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Ala Leu Asn Ala Ser Phe Leu Gln Ser Glu Ser Gly Ala Tyr Gly Tyr

15

20

25

agt aac cct aag atc cta aaa cag agc atg acc ttg aac ctg gcc gac 1048

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30

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ccg gtg ggc agt ctg aag ccg cac ctc cgc gcc aag aac tcg gac ctt 1096

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45

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55

60

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 Glu Met Pro Gly Glu Thr Pro Pro Leu Ser Pro Ile Asp Met Glu Ser
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 Gln Glu Arg Ile Lys Ala Glu Arg Lys Arg Met Arg Asn Arg Ile Ala
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 Ala Ser Lys Cys Arg Lys Arg Lys Leu Glu Arg Ile Ala Arg Leu Glu
 270 275 280
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 305 310 315
 aac cac gtt aac agt ggg tgc caa ctc atg cta acg cag cag ttg caa 1912
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 Thr Phe
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<212> PRT

<213> Mus musculus

<400> 1001

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 Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala Phe Pro

210	215	220	
ggc tgc gca ggc aca gcc ttg cag tac ccg cct cct gcc tac cct gcc			2397
Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr Pro Ala			
225	230	235	240
acc aaa ggt ggt ttc cag gtt ccc atg atc cct gac tat ctg ttt cca			2445
Thr Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu Phe Pro			
245	250	255	
caa caa cag gga gac ctg agc ctg ggc acc cca gac cag aag ccc ttc			2493
Gln Gln Gln Gly Asp Leu Ser Leu Gly Thr Pro Asp Gln Lys Pro Phe			
260	265	270	
cag ggt ctg gag aac cgt acc cag cag cct tgc ctc act cca cta tcc			2541
Gln Gly Leu Glu Asn Arg Thr Gln Gln Pro Ser Leu Thr Pro Leu Ser			
275	280	285	
act att aaa gcc ttc gcc act cag tgc ggc tcc cag gac tta aag gct			2589
Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu Lys Ala			
290	295	300	
ctt aat acc acc tac caa tcc cag ctc atc aaa ccc agc cgc atg cgc			2637
Leu Asn Thr Thr Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg			
305	310	315	320
aag tac ccc aac cgg ccc agc aag aca ccc ccc cat gaa cgc cca tat			2685
Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr			
325	330	335	
gct tgc cct gtc gag tcc tgc gat cgc cgc ttt tct cgc tgc gat gag			2733
Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Glu			
340	345	350	
ctt acc cgc cat atc cgc atc cac aca ggc cag aag ccc ttc cag tgt			2781
Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys			
355	360	365	
cga atc tgc atg cgt aac ttc agt cgt agt gac cac ctt acc acc cac			2829

aca att gaa att tgc taa agggaataaa agaaagcaaa gggagaggca 3309

Thr Ile Glu Ile Cys

530

ggaaagacat aaaagcacag gaggggaagag atggccgcaa gagggggccac ctcttaggtc 3369

agatggaaga tctcagagcc aagtccttct actcacgagt agaaggaccg ttggccaaca 3429

gccctttcac ttaccatccc tgcctccccc gtccgtgtcc ccttttgact tcagctgcct 3489

gaaacagcca tgtccaagtt cttcacctct atccaaagga cttgatttgc atggatttgg 3549

ataaatcatt tcagtatcct ctccatcaca tgcctggccc ttgctccctt cagcgctaga 3609

ccatcaagtt ggcatataa aaaaaaaaaatg ggtttgggcc ctccagaacc tgccttgcct 3669

ctttgtacag catctgtgcc atggattttg ttttcccttg ggtattcttg atgtgaagat 3729

aatttgcata ctctatttga ttatttggag ttaaattctc actttggggg aggggggagc 3789

aaagccaagc aaaccaatga tgatcctcta ttttgtgatg actctgctgt gacattaggt 3849

ttgaagcatt ttttttttca agcagcagtc ctaggatatta actggagcat gtgtcagagt 3909

gttgttccgt taatttttga aatactgtct gactgttaact ctccatgtg acaaagtatg 3969

gtttgtttgg ttgggttttg tttttgagaa tttttttgcc cgtccctttg gtttcaaaag 4029

tttcacgtct tgggtgcctt tgtgtgacac gccttgccga tggcttgaca tgcgcagatg 4089

tgagggacac gctcacctta gccttaaggg ggtaggagtg atgttttggg ggaggctttg 4149

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aaatttaaac aaaaatctga actctcaaaa gtctattttt ctaaactgaa aatgtaaaatt 4269

tatacatcta ttcaggagtt ggagtgttgt ggttacctac tgagtaggct gcagtttttg 4329

tatgttatga acatgaagtt cattattttg tggttttatt ttactttgta cttgtgtttg 4389

cttaaacaaa gtaacctgtt tggcttataa acacattgaa tgcgctctat tgcccatggg 4449

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<210> 1003

<211> 533

<212> PRT

<213> Mus musculus

<400> 1003

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 20 25 30
 Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
 35 40 45
 Leu Gly Ala Ala Gly Thr Pro Glu Gly Ser Gly Gly Asn Ser Ser Ser
 50 55 60
 Ser Thr Ser Ser Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Gly Ser
 65 70 75 80
 Ser Ala Phe Asn Pro Gln Gly Glu Pro Ser Glu Gln Pro Tyr Glu His
 85 90 95
 Leu Thr Thr Glu Ser Phe Ser Asp Ile Ala Leu Asn Asn Glu Lys Ala
 100 105 110
 Met Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu Pro Pro Ile
 115 120 125
 Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn Ser Gly Asn
 130 135 140
 Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly Leu Val Ser
 145 150 155 160
 Met Thr Asn Pro Pro Thr Ser Ser Ser Ser Ala Pro Ser Pro Ala Ala
 165 170 175
 Ser Ser Ser Ser Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys Ala Val
 180 185 190
 Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr Phe Pro
 195 200 205
 Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala Phe Pro
 210 215 220

Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr Pro Ala
 225 230 235 240
 Thr Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu Phe Pro
 245 250 255
 Gln Gln Gln Gly Asp Leu Ser Leu Gly Thr Pro Asp Gln Lys Pro Phe
 260 265 270
 Gln Gly Leu Glu Asn Arg Thr Gln Gln Pro Ser Leu Thr Pro Leu Ser
 275 280 285
 Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu Lys Ala
 290 295 300
 Leu Asn Thr Thr Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg
 305 310 315 320
 Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr
 325 330 335
 Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Glu
 340 345 350
 Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys
 355 360 365
 Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr Thr His
 370 375 380
 Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly
 385 390 395 400
 Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Thr Lys Ile His
 405 410 415
 Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala Ser Pro
 420 425 430
 Ala Ala Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr Ser Tyr
 435 440 445
 Pro Ser Pro Ala Thr Thr Ser Phe Pro Ser Pro Val Pro Thr Ser Tyr

450	455	460
Ser Ser Pro Gly Ser Ser Thr Tyr Pro Ser Pro Ala His Ser Gly Phe		
465	470	475
Pro Ser Pro Ser Val Ala Thr Thr Phe Ala Ser Val Pro Pro Ala Phe		480
	485	490
Pro Thr Gln Val Ser Ser Phe Pro Ser Ala Gly Val Ser Ser Ser Phe		495
500	505	510
Ser Thr Ser Thr Gly Leu Ser Asp Met Thr Ala Thr Phe Ser Pro Arg		
515	520	525
Thr Ile Glu Ile Cys		
530		

<210> 1004

<211> 4145

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (1202).. (2218)

<400> 1004

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 actgtaatag acattacatc cataaaagtt tccccagttc ttattgtaat attgcacagt 180
 gcaattgcta catggcaaac tagtgtagca tagaagtcaa agcaaaaaca aaccaaagaa 240
 aggagccaca agagtaaaac tgttcaacag ttaatagttc aaactaagcc attgaatcta 300
 tcattgggat cgttaaaatg aatcttccta caccttgcag tgtatgattt aacttttaca 360
 gaacacaagc caagttttaa atcagcagta gagatattaa aatgaaaagg ttigtctaata 420

gagtaacatt aaataccctg aaggaaaaaa aacctaaata tcaaaataac tgattaaaaat 480
 tcacttgcaa attagcacac gaatatgcaa ctiggaatc atgcagtgtt ttatttaaga 540
 aaacataaaa caaaactatt aaaatagttt tagagggggt aaaatccagg tcctctgcca 600
 ggatgctaaa attagacttc aggggaattt tgaagtcctc aattttgaaa cctattaaaa 660
 agcccatgat tacagttaat taagagcagt gcacgcaaca gtgacacgcc tttagagagc 720
 attacttgtt atgaacatgt tggctgctac cagccacagt caatttaaca aggctgctca 780
 gicatgaact taatacagag agagcacgcc taggcagcaa gcacagcttg ctgggccact 840
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 ccgcggcact gcccggcggg ttcttgggct gggagcgatc ccgcgctgc ccccggtgaa 960
 accgacagag cctggacttt caggaggtac agcggcggtc tgaaggggat ctgggatctt 1020
 gcagagggaa ctigcatcga aacttgggca gttctccgaa ccggagacta agcttccccg 1080
 agcagcgcac tttagagacg tgtccggtct actccggact cgcattcat tccactcggc 1140
 catagccctg gcttcccggc gacctcagcg tggtcacagg ggccccctg tgcccaggga 1200
 a atg ttt caa gct ttt ccc gga gac tac gac tcc ggc tcc cgg tgt agc 1249

Met Phe Gln Ala Phe Pro Gly Asp Tyr Asp Ser Gly Ser Arg Cys Ser

1	5	10	15	
tca tca ccc tcc gcc gag tct cag tac ctg tct tgc gtg gac tcc ttc	1297			
Ser Ser Pro Ser Ala Glu Ser Gln Tyr Leu Ser Ser Val Asp Ser Phe				
20	25	30		
ggc agt cca ccc acc gcc gcc gcc tcc cag gag tgc gcc ggt ctc ggg	1345			
Gly Ser Pro Pro Thr Ala Ala Ala Ser Gln Glu Cys Ala Gly Leu Gly				
35	40	45		
gaa atg ccc ggc tcc ttc gtg cca acg gtc acc gca atc aca acc agc	1393			
Glu Met Pro Gly Ser Phe Val Pro Thr Val Thr Ala Ile Thr Thr Ser				
50	55	60		
cag gat ctt cag tgg ctc gtg caa ccc acc ctc atc tct tcc atg gcc	1441			
Gln Asp Leu Gln Trp Leu Val Gln Pro Thr Leu Ile Ser Ser Met Ala				
65	70	75	80	
cag tcc cag ggg cag cca ctg gcc tcc cag cct cca gct gtt gac cct	1489			

Gln Ser Gln Gly Gln Pro Leu Ala Ser Gln Pro Pro Ala Val Asp Pro	
85	90
95	
tat gac atg cca gga acc agc tac tca acc cca ggc ctg agt gcc tac	1537
Tyr Asp Met Pro Gly Thr Ser Tyr Ser Thr Pro Gly Leu Ser Ala Tyr	
100	105
110	
agc act ggc ggg gca agc gga agt ggt ggg cct tca acc agc aca acc	1585
Ser Thr Gly Gly Ala Ser Gly Ser Gly Gly Pro Ser Thr Ser Thr Thr	
115	120
125	
acc agt gga cct gtg tct gcc cgt cca gcc aga gcc agg cct aga aga	1633
Thr Ser Gly Pro Val Ser Ala Arg Pro Ala Arg Ala Arg Pro Arg Arg	
130	135
140	
ccc cga gaa gag aca ctt acc cca gaa gaa gaa gaa aag cga agg gtt	1681
Pro Arg Glu Glu Thr Leu Thr Pro Glu Glu Glu Glu Lys Arg Arg Val	
145	150
155	160
cgc aga gag cgg aac aag ctg gct gca gct aag tgc agg aac cgt cgg	1729
Arg Arg Glu Arg Asn Lys Leu Ala Ala Ala Lys Cys Arg Asn Arg Arg	
165	170
175	
agg gag ctg aca gat cga ctt cag gcg gaa act gat cag ctt gaa gag	1777
Arg Glu Leu Thr Asp Arg Leu Gln Ala Glu Thr Asp Gln Leu Glu Glu	
180	185
190	
gaa aag gca gag ctg gag tcg gag atc gcc gag ctg caa aaa gag aag	1825
Glu Lys Ala Glu Leu Glu Ser Glu Ile Ala Glu Leu Gln Lys Glu Lys	
195	200
205	
gaa cgc ctg gag ttt gtc ctg gtg gcc cac aaa ccg ggc tgc aag atc	1873
Glu Arg Leu Glu Phe Val Leu Val Ala His Lys Pro Gly Cys Lys Ile	
210	215
220	
ccc tac gaa gag ggg ccg ggg cca ggc ccg ctg gcc gag gtg aga gat	1921
Pro Tyr Glu Glu Gly Pro Gly Pro Gly Pro Leu Ala Glu Val Arg Asp	
225	230
235	240

ttg cca ggg tca aca tcc gct aag gaa gac ggc ttc ggc tgg ctg ctg 1969
 Leu Pro Gly Ser Thr Ser Ala Lys Glu Asp Gly Phe Gly Trp Leu Leu
 245 250 255
 ccg ccc cct cca cca ccc ccc ctg ccc ttc cag agc agc cga gac gca 2017
 Pro Pro Pro Pro Pro Pro Pro Leu Pro Phe Gln Ser Ser Arg Asp Ala
 260 265 270
 ccc ccc aac ctg acg gct tct ctc ttt aca cac agt gaa gtt caa gtc 2065
 Pro Pro Asn Leu Thr Ala Ser Leu Phe Thr His Ser Glu Val Gln Val
 275 280 285
 ctc ggc gac ccc ttc ccc gtt gtt agc cct tcg tac act tcc tcg ttt 2113
 Leu Gly Asp Pro Phe Pro Val Val Ser Pro Ser Tyr Thr Ser Ser Phe
 290 295 300
 gtc ctc acc tgc ccg gag gtc tcc gcg ttc gcc ggc gcc caa cgc acc 2161
 Val Leu Thr Cys Pro Glu Val Ser Ala Phe Ala Gly Ala Gln Arg Thr
 305 310 315 320
 agc ggc agc gag cag ccg tcc gac ccg ctg aac tcg ccc tcc ctt ctt 2209
 Ser Gly Ser Glu Gln Pro Ser Asp Pro Leu Asn Ser Pro Ser Leu Leu
 325 330 335
 gct ctg taa actctttaga caaacaac aaacaaaccc gcaaggaaca 2258
 Ala Leu
 aggaggagga agatgaggag gagaggggag gaagcagtcc gggggtgtgt gtgtggacc 2318
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<210> 1005

<211> 338

<212> PRT

<213> Mus musculus

<400> 1005

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 35 40 45
 Glu Met Pro Gly Ser Phe Val Pro Thr Val Thr Ala Ile Thr Thr Ser
 50 55 60
 Gln Asp Leu Gln Trp Leu Val Gln Pro Thr Leu Ile Ser Ser Met Ala
 65 70 75 80
 Gln Ser Gln Gly Gln Pro Leu Ala Ser Gln Pro Pro Ala Val Asp Pro
 85 90 95
 Tyr Asp Met Pro Gly Thr Ser Tyr Ser Thr Pro Gly Leu Ser Ala Tyr
 100 105 110
 Ser Thr Gly Gly Ala Ser Gly Ser Gly Gly Pro Ser Thr Ser Thr Thr
 115 120 125
 Thr Ser Gly Pro Val Ser Ala Arg Pro Ala Arg Ala Arg Pro Arg Arg
 130 135 140
 Pro Arg Glu Glu Thr Leu Thr Pro Glu Glu Glu Glu Lys Arg Arg Val
 145 150 155 160
 Arg Arg Glu Arg Asn Lys Leu Ala Ala Ala Lys Cys Arg Asn Arg Arg
 165 170 175
 Arg Glu Leu Thr Asp Arg Leu Gln Ala Glu Thr Asp Gln Leu Glu Glu
 180 185 190
 Glu Lys Ala Glu Leu Glu Ser Glu Ile Ala Glu Leu Gln Lys Glu Lys
 195 200 205
 Glu Arg Leu Glu Phe Val Leu Val Ala His Lys Pro Gly Cys Lys Ile
 210 215 220

Pro Tyr Glu Glu Gly Pro Gly Pro Gly Pro Leu Ala Glu Val Arg Asp
 225 230 235 240
 Leu Pro Gly Ser Thr Ser Ala Lys Glu Asp Gly Phe Gly Trp Leu Leu
 245 250 255
 Pro Pro Pro Pro Pro Pro Pro Leu Pro Phe Gln Ser Ser Arg Asp Ala
 260 265 270
 Pro Pro Asn Leu Thr Ala Ser Leu Phe Thr His Ser Glu Val Gln Val
 275 280 285
 Leu Gly Asp Pro Phe Pro Val Val Ser Pro Ser Tyr Thr Ser Ser Phe
 290 295 300
 Val Leu Thr Cys Pro Glu Val Ser Ala Phe Ala Gly Ala Gln Arg Thr
 305 310 315 320
 Ser Gly Ser Glu Gln Pro Ser Asp Pro Leu Asn Ser Pro Ser Leu Leu
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 Ala Leu

<210> 1006

<211> 4152

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (101).. (1915)

<400> 1006

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 caccgccacc actactgcc a cctccgctgc cacctctgag atg ctc ttc cga gct 115
 Met Leu Phe Arg Ala

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gtg ctg ctc tgc gct gcc ctg ggg ctc agc cag gca gca aat cct tgc			163
Val Leu Leu Cys Ala Ala Leu Gly Leu Ser Gln Ala Ala Asn Pro Cys			
	10	15	20
tgt tcc aat cca tgt caa aac cgt ggg gaa tgt atg agc aca gga ttt			211
Cys Ser Asn Pro Cys Gln Asn Arg Gly Glu Cys Met Ser Thr Gly Phe			
	25	30	35
gac cag tat aag tgt gac tgt acc cgg act gga ttc tat ggt gaa aac			259
Asp Gln Tyr Lys Cys Asp Cys Thr Arg Thr Gly Phe Tyr Gly Glu Asn			
	40	45	50
tgt act aca cct gaa ttt ctg aca aga atc aaa tta ctg ctg aag ccc			307
Cys Thr Thr Pro Glu Phe Leu Thr Arg Ile Lys Leu Leu Leu Lys Pro			
	55	60	65
acc cca aac aca gtg cac tac atc ctg acc cac ttc aag gga gtc tgg			355
Thr Pro Asn Thr Val His Tyr Ile Leu Thr His Phe Lys Gly Val Trp			
	70	75	80
aac att gtg aac aac atc ccc ttc ctg cga agt tta atc atg aaa tat			403
Asn Ile Val Asn Asn Ile Pro Phe Leu Arg Ser Leu Ile Met Lys Tyr			
	90	95	100
gtg ctg aca tcc aga tca tat ttg att gac agt cca cct act tac aat			451
Val Leu Thr Ser Arg Ser Tyr Leu Ile Asp Ser Pro Pro Thr Tyr Asn			
	105	110	115
gtg cac tat ggt tac aaa agc tgg gaa gcc ttc tcc aac ctc tcc tac			499
Val His Tyr Gly Tyr Lys Ser Trp Glu Ala Phe Ser Asn Leu Ser Tyr			
	120	125	130
tac acc agg gcc ctt cct ccc gta gca gat gac tgc cca act ccc atg			547
Tyr Thr Arg Ala Leu Pro Pro Val Ala Asp Asp Cys Pro Thr Pro Met			
	135	140	145
ggt gtg aag gga aat aag gag ctt cct gat tca aaa gaa gtg ctg gaa			595

Gly Val Lys Gly Asn Lys Glu Leu Pro Asp Ser Lys Glu Val Leu Glu	
150	155
aag gtt ctt cta cgg aga gag ttc atc cct gac ccc caa ggc tca aat	643
Lys Val Leu Leu Arg Arg Glu Phe Ile Pro Asp Pro Gln Gly Ser Asn	
170	175
atg atg ttt gca ttc ttt gcc cag cac ttc acc cat cag ttt ttc aag	691
Met Met Phe Ala Phe Phe Ala Gln His Phe Thr His Gln Phe Phe Lys	
185	190
aca gat cat aag cga gga cct ggg ttc acc cga gga ctg ggc cat gga	739
Thr Asp His Lys Arg Gly Pro Gly Phe Thr Arg Gly Leu Gly His Gly	
200	205
gtg gac tta aat cac att tat ggt gaa act ctg gac aga caa cat aaa	787
Val Asp Leu Asn His Ile Tyr Gly Glu Thr Leu Asp Arg Gln His Lys	
215	220
ctg cgc ctt ttc aag gat gga aaa ttg aaa tat cag gtc att ggt gga	835
Leu Arg Leu Phe Lys Asp Gly Lys Leu Lys Tyr Gln Val Ile Gly Gly	
230	235
gag gtg tat ccc ccc aca gtc aaa gac act cag gta gag atg atc tac	883
Glu Val Tyr Pro Pro Thr Val Lys Asp Thr Gln Val Glu Met Ile Tyr	
250	255
cct cct cac atc cct gag aac ctg cag ttt gct gtg ggg cag gaa gtc	931
Pro Pro His Ile Pro Glu Asn Leu Gln Phe Ala Val Gly Gln Glu Val	
265	270
ttt ggt ctg gtg cct ggt ctg atg atg tat gcc acc atc tgg ctt cgg	979
Phe Gly Leu Val Pro Gly Leu Met Met Tyr Ala Thr Ile Trp Leu Arg	
280	285
gag cac aac aga gtg tgc gac ata ctc aag cag gag cat cct gag tgg	1027
Glu His Asn Arg Val Cys Asp Ile Leu Lys Gln Glu His Pro Glu Trp	
295	300
	305

ggt gat gag caa cta ttc caa acc agc aga ctc ata ctc ata gga gag 1075
 Gly Asp Glu Gln Leu Phe Gln Thr Ser Arg Leu Ile Leu Ile Gly Glu
 310 315 320 325
 act atc aag ata gtg atc gaa gac tac gtg caa cac ctg agc ggt tac 1123
 Thr Ile Lys Ile Val Ile Glu Asp Tyr Val Gln His Leu Ser Gly Tyr
 330 335 340
 cac ttc aaa ctc aag ttt gac cca gag ctc ctt ttc aac cag cag ttc 1171
 His Phe Lys Leu Lys Phe Asp Pro Glu Leu Leu Phe Asn Gln Gln Phe
 345 350 355
 cag tat cag aac cgc att gcc tct gaa ttc aac aca ctc tat cac tgg 1219
 Gln Tyr Gln Asn Arg Ile Ala Ser Glu Phe Asn Thr Leu Tyr His Trp
 360 365 370
 cac ccc ctg ctg ccc gac acc ttc aac att gaa gac cag gag tac agc 1267
 His Pro Leu Leu Pro Asp Thr Phe Asn Ile Glu Asp Gln Glu Tyr Ser
 375 380 385
 ttt aaa cag ttt ctc tac aac aac tcc atc ctc ctg gaa cat gga ctc 1315
 Phe Lys Gln Phe Leu Tyr Asn Asn Ser Ile Leu Leu Glu His Gly Leu
 390 395 400 405
 act cag ttt gtt gag tca ttc acc aga cag att gct ggc cgg gtt gct 1363
 Thr Gln Phe Val Glu Ser Phe Thr Arg Gln Ile Ala Gly Arg Val Ala
 410 415 420
 ggg gga aga aat gtg cca att gct gta caa gca gtg gca aag gcc tcc 1411
 Gly Gly Arg Asn Val Pro Ile Ala Val Gln Ala Val Ala Lys Ala Ser
 425 430 435
 att gac cag agc aga gag atg aaa tac cag tct ctc aat gag tac cgg 1459
 Ile Asp Gln Ser Arg Glu Met Lys Tyr Gln Ser Leu Asn Glu Tyr Arg
 440 445 450
 aaa cgc ttc tcc ctg aag ccg tac aca tca ttt gaa gaa ctt aca gga 1507
 Lys Arg Phe Ser Leu Lys Pro Tyr Thr Ser Phe Glu Glu Leu Thr Gly

455	460	465	
gag aag gaa atg gct gca gaa ttg aaa gcc ctc tac agt gac atc gat			1555
Glu Lys Glu Met Ala Ala Glu Leu Lys Ala Leu Tyr Ser Asp Ile Asp			
470	475	480	485
gtc atg gaa ctg tac cct gcc ctg ctg gtg gaa aaa cct cgt cca gat			1603
Val Met Glu Leu Tyr Pro Ala Leu Leu Val Glu Lys Pro Arg Pro Asp			
490	495	500	
gct atc ttt ggg gag acc atg gta gag ctt gga gca cca ttc tcc ttg			1651
Ala Ile Phe Gly Glu Thr Met Val Glu Leu Gly Ala Pro Phe Ser Leu			
505	510	515	
aaa gga ctt atg gga aat ccc atc tgt tct cct caa tac tgg aag ccg			1699
Lys Gly Leu Met Gly Asn Pro Ile Cys Ser Pro Gln Tyr Trp Lys Pro			
520	525	530	
agc acc ttt gga ggc gaa gtg ggt ttt aag atc atc aat act gcc tca			1747
Ser Thr Phe Gly Gly Glu Val Gly Phe Lys Ile Ile Asn Thr Ala Ser			
535	540	545	
att cag tct ctc atc tgc aat aat gtg aag ggg tgt ccc ttc act tct			1795
Ile Gln Ser Leu Ile Cys Asn Asn Val Lys Gly Cys Pro Phe Thr Ser			
550	555	560	565
ttc aat gtg caa gat cca cag cct acc aaa aca gcc acc atc aat gca			1843
Phe Asn Val Gln Asp Pro Gln Pro Thr Lys Thr Ala Thr Ile Asn Ala			
570	575	580	
agt gcc tcc cac tcc aga cta gat gac att aac cct aca gta cta atc			1891
Ser Ala Ser His Ser Arg Leu Asp Asp Ile Asn Pro Thr Val Leu Ile			
585	590	595	
aaa agg cgt tca act gag ctg taa aagtctactg accatattta tttatttatg			1945
Lys Arg Arg Ser Thr Glu Leu			
600	605		
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<210> 1007

<211> 604

<212> PRT

<213> Mus musculus

<400> 1007

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 35 40 45
 Phe Tyr Gly Glu Asn Cys Thr Thr Pro Glu Phe Leu Thr Arg Ile Lys
 50 55 60
 Leu Leu Leu Lys Pro Thr Pro Asn Thr Val His Tyr Ile Leu Thr His
 65 70 75 80
 Phe Lys Gly Val Trp Asn Ile Val Asn Asn Ile Pro Phe Leu Arg Ser
 85 90 95
 Leu Ile Met Lys Tyr Val Leu Thr Ser Arg Ser Tyr Leu Ile Asp Ser
 100 105 110
 Pro Pro Thr Tyr Asn Val His Tyr Gly Tyr Lys Ser Trp Glu Ala Phe

115	120	125
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Cys Pro Thr Pro Met Gly Val Lys Gly Asn Lys Glu Leu Pro Asp Ser		
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Lys Glu Val Leu Glu Lys Val Leu Leu Arg Arg Glu Phe Ile Pro Asp		
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Pro Gln Gly Ser Asn Met Met Phe Ala Phe Phe Ala Gln His Phe Thr		
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His Gln Phe Phe Lys Thr Asp His Lys Arg Gly Pro Gly Phe Thr Arg		
195	200	205
Gly Leu Gly His Gly Val Asp Leu Asn His Ile Tyr Gly Glu Thr Leu		
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Asp Arg Gln His Lys Leu Arg Leu Phe Lys Asp Gly Lys Leu Lys Tyr		
225	230	235
Gln Val Ile Gly Gly Glu Val Tyr Pro Pro Thr Val Lys Asp Thr Gln		
245	250	255
Val Glu Met Ile Tyr Pro Pro His Ile Pro Glu Asn Leu Gln Phe Ala		
260	265	270
Val Gly Gln Glu Val Phe Gly Leu Val Pro Gly Leu Met Met Tyr Ala		
275	280	285
Thr Ile Trp Leu Arg Glu His Asn Arg Val Cys Asp Ile Leu Lys Gln		
290	295	300
Glu His Pro Glu Trp Gly Asp Glu Gln Leu Phe Gln Thr Ser Arg Leu		
305	310	315
Ile Leu Ile Gly Glu Thr Ile Lys Ile Val Ile Glu Asp Tyr Val Gln		
325	330	335
His Leu Ser Gly Tyr His Phe Lys Leu Lys Phe Asp Pro Glu Leu Leu		
340	345	350

Phe Asn Gln Gln Phe Gln Tyr Gln Asn Arg Ile Ala Ser Glu Phe Asn
 355 360 365
 Thr Leu Tyr His Trp His Pro Leu Leu Pro Asp Thr Phe Asn Ile Glu
 370 375 380
 Asp Gln Glu Tyr Ser Phe Lys Gln Phe Leu Tyr Asn Asn Ser Ile Leu
 385 390 395 400
 Leu Glu His Gly Leu Thr Gln Phe Val Glu Ser Phe Thr Arg Gln Ile
 405 410 415
 Ala Gly Arg Val Ala Gly Gly Arg Asn Val Pro Ile Ala Val Gln Ala
 420 425 430
 Val Ala Lys Ala Ser Ile Asp Gln Ser Arg Glu Met Lys Tyr Gln Ser
 435 440 445
 Leu Asn Glu Tyr Arg Lys Arg Phe Ser Leu Lys Pro Tyr Thr Ser Phe
 450 455 460
 Glu Glu Leu Thr Gly Glu Lys Glu Met Ala Ala Glu Leu Lys Ala Leu
 465 470 475 480
 Tyr Ser Asp Ile Asp Val Met Glu Leu Tyr Pro Ala Leu Leu Val Glu
 485 490 495
 Lys Pro Arg Pro Asp Ala Ile Phe Gly Glu Thr Met Val Glu Leu Gly
 500 505 510
 Ala Pro Phe Ser Leu Lys Gly Leu Met Gly Asn Pro Ile Cys Ser Pro
 515 520 525
 Gln Tyr Trp Lys Pro Ser Thr Phe Gly Gly Glu Val Gly Phe Lys Ile
 530 535 540
 Ile Asn Thr Ala Ser Ile Gln Ser Leu Ile Cys Asn Asn Val Lys Gly
 545 550 555 560
 Cys Pro Phe Thr Ser Phe Asn Val Gln Asp Pro Gln Pro Thr Lys Thr
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 Ala Thr Ile Asn Ala Ser Ala Ser His Ser Arg Leu Asp Asp Ile Asn

580

585

590

Pro Thr Val Leu Ile Lys Arg Arg Ser Thr Glu Leu

595

600

<210> 1008

<211> 503

<212> DNA

<213> Mus musculus

<400> 1008

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ccttggagaa gctcagtttg ttctgcgagg agagccgcag cttcaacgac tgggtgcca 360
gcatcacctt tcccgagtga cagcctggca gggacctttg tcttgtcgac ttggtgacac 420
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503

<210> 1009

<211> 483

<212> DNA

<213> Mus musculus

<400> 1009

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ccagcggaag tcgtcaagca gaggaatgcag atgtacaact cgccgtacca ccgcgtgaca 180

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gactgtgttc gggcagtgtg gcaaaatgaa ggggccgggg ccttttaccg cagctacacg 240
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 caagagcact ttaacccccca gagacgggtac aaccccagct cccatgtgct ctgtggggcc 360
 tgcgcaggag cagtagctgc cgccgccaca accccactgg acgtttgtta aacactgctc 420
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 agt 483

<210> 1010

<211> 429

<212> DNA

<213> *Mus musculus*

<400> 1010

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 ctgcagcttt caaagctcga acaaaagctc gaagcaaattg ccgagataag agagcagaatg 180
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<210> 1011

<211> 670

<212> DNA

<213> *Mus musculus*

<400> 1011

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gaacctatg cgggggtagc tttgaatac gatccagaca acgcacttag gcatacagt 600
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<210> 1012

<211> 688

<212> DNA

<213> Mus musculus

<400> 1012

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caaaggatca agtggattcg gcggatacag aacttcttca gctgaaggca cagtacaagt 480
cgctgacagg aatcgagtat aagcctgtgt ctgtactgg ggcagaagac gaagataaaa 540
agaagaaaga aaggaaaatt aatctgaaaa gcagaacaag cctccggaac caaatgatgg 600
cccagggaag gactcctcca aagccaaggc agtggcctgt cattccggtg gagcaggaga 660

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688

<210> 1013

<211> 1817

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (320).. (1354)

<400> 1013

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 ggacagctcg ccgctcgccg cagcgaggcc cggggcggcc cttcaggggg acctttccca 300
 gatcgcccag gccgcccgg atg tgc acg aaa atg gaa cag cct ttc tat cac 352

Met Cys Thr Lys Met Glu Gln Pro Phe Tyr His

1

5

10

gac gac tct tac gca gcg gcg gga tac ggt cgg agc cct ggc agc ctg 400

Asp Asp Ser Tyr Ala Ala Ala Gly Tyr Gly Arg Ser Pro Gly Ser Leu

15

20

25

tct cta cac gac tac aaa ctc ctg aaa ccc acc ttg gcg ctc aac ctg 448

Ser Leu His Asp Tyr Lys Leu Leu Lys Pro Thr Leu Ala Leu Asn Leu

30

35

40

gcg gat ccc tat cgg ggt ctc aag ggt cct ggg gcg cgg ggt cca ggc 496

Ala Asp Pro Tyr Arg Gly Leu Lys Gly Pro Gly Ala Arg Gly Pro Gly

45

50

55

ccg gag ggc agt ggg gca ggc agc tac ttt tcg ggt cag gga tca gac 544
 Pro Glu Gly Ser Gly Ala Gly Ser Tyr Phe Ser Gly Gln Gly Ser Asp
 60 65 70 75
 aca ggc gca tct ctg aag cta gcc tcc acg gaa ctg gag cgc ttg atc 592
 Thr Gly Ala Ser Leu Lys Leu Ala Ser Thr Glu Leu Glu Arg Leu Ile
 80 85 90
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 Val Pro Asn Ser Asn Gly Val Ile Thr Thr Thr Pro Thr Pro Pro Gly
 95 100 105
 cag tac ttt tac ccc cgt ggg ggt ggc agc ggt gga ggt aca ggg ggc 688
 Gln Tyr Phe Tyr Pro Arg Gly Gly Gly Ser Gly Gly Gly Thr Gly Gly
 110 115 120
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 Gly Val Thr Glu Glu Gln Glu Gly Phe Ala Asp Gly Phe Val Lys Ala
 125 130 135
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 Leu Asp Asp Leu His Lys Met Asn His Val Thr Pro Pro Asn Val Ser
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 Gly Pro Glu Pro Pro Pro Val Tyr Thr Asn Leu Ser Ser Tyr Ser Pro
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 Ser Tyr Pro Thr Ala Thr Ile Ser Tyr Leu Pro His Ala Pro Pro Phe

205	210	215	
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Ala Gly Gly His Pro Ala Gln Leu Gly Leu Ser Arg Gly Ala Ser Ala			
220	225	230	235
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Phe Lys Glu Glu Pro Gln Thr Val Pro Glu Ala Arg Ser Arg Asp Ala			
240	245	250	
acg ccg cct gtg tcc ccc atc aac atg gaa gac cag gag cgc atc aaa			1120
Thr Pro Pro Val Ser Pro Ile Asn Met Glu Asp Gln Glu Arg Ile Lys			
255	260	265	
gtg gag cga aag cgg ctg cgg aac agg ctg gcg gcc acc aag tgc cgg			1168
Val Glu Arg Lys Arg Leu Arg Asn Arg Leu Ala Ala Thr Lys Cys Arg			
270	275	280	
aag cgg aag ctg gag cgc atc gcg cgc ctg gag gac aag gtg aag aca			1216
Lys Arg Lys Leu Glu Arg Ile Ala Arg Leu Glu Asp Lys Val Lys Thr			
285	290	295	
ctc aag gct gag aac gcg ggg ctg tcg agt gct gcc ggt ctc cta agg			1264
Leu Lys Ala Glu Asn Ala Gly Leu Ser Ser Ala Ala Gly Leu Leu Arg			
300	305	310	315
gag caa gtg gcg cag ctc aag cag aag gtc atg acc cat gtc agc aac			1312
Glu Gln Val Ala Gln Leu Lys Gln Lys Val Met Thr His Val Ser Asn			
320	325	330	
ggc tgc cag ttg ctg cta ggg gtc aag gga cac gcc ttc tga			1354
Gly Cys Gln Leu Leu Leu Gly Val Lys Gly His Ala Phe			
335	340	345	
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<210> 1014

<211> 344

<212> PRT

<213> Mus musculus

<400> 1014

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Lys	Leu	Leu	Lys	Pro	Thr	Leu	Ala	Leu	Asn	Leu	Ala	Asp	Pro	Tyr	Arg
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65				70						75				80	
Lys	Leu	Ala	Ser	Thr	Glu	Leu	Glu	Arg	Leu	Ile	Val	Pro	Asn	Ser	Asn
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Gly	Val	Ile	Thr	Thr	Thr	Pro	Thr	Pro	Pro	Gly	Gln	Tyr	Phe	Tyr	Pro
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Arg	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Thr	Gly	Gly	Gly	Val	Thr	Glu	Glu
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Gln	Glu	Gly	Phe	Ala	Asp	Gly	Phe	Val	Lys	Ala	Leu	Asp	Asp	Leu	His
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Lys Met Asn His Val Thr Pro Pro Asn Val Ser Leu Gly Ala Ser Gly
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 165 170 175
 Pro Val Tyr Thr Asn Leu Ser Ser Tyr Ser Pro Ala Ser Ala Pro Ser
 180 185 190
 Gly Gly Ser Gly Thr Ala Val Gly Thr Gly Ser Ser Tyr Pro Thr Ala
 195 200 205
 Thr Ile Ser Tyr Leu Pro His Ala Pro Pro Phe Ala Gly Gly His Pro
 210 215 220
 Ala Gln Leu Gly Leu Ser Arg Gly Ala Ser Ala Phe Lys Glu Glu Pro
 225 230 235 240
 Gln Thr Val Pro Glu Ala Arg Ser Arg Asp Ala Thr Pro Pro Val Ser
 245 250 255
 Pro Ile Asn Met Glu Asp Gln Glu Arg Ile Lys Val Glu Arg Lys Arg
 260 265 270
 Leu Arg Asn Arg Leu Ala Ala Thr Lys Cys Arg Lys Arg Lys Leu Glu
 275 280 285
 Arg Ile Ala Arg Leu Glu Asp Lys Val Lys Thr Leu Lys Ala Glu Asn
 290 295 300
 Ala Gly Leu Ser Ser Ala Ala Gly Leu Leu Arg Glu Gln Val Ala Gln
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 340

<210> 1015

<211> 321

<212> DNA

<213> Mus musculus

<400> 1015

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<210> 1016

<211> 462

<212> DNA

<213> Mus musculus

<400> 1016

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<210> 1017

<211> 4240

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (124).. (1968)

<400> 1017

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Tyr Lys Ala Phe Val Lys Asp Val His Glu Asp Ser Ile Thr Val Ala
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ttt gaa aac aac tgg caa cca gag aga cag att cca ttc cat gat gtg 264
Phe Glu Asn Asn Trp Gln Pro Glu Arg Gln Ile Pro Phe His Asp Val
      35             40             45
aga ttc cca cca cct gta ggt tat aat aaa gat ata aac gaa agt gat 312
Arg Phe Pro Pro Pro Val Gly Tyr Asn Lys Asp Ile Asn Glu Ser Asp
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gaa gtt gag gtt tat tcc aga gca aat gaa aaa gag cct tgc tgt tgg 360
Glu Val Glu Val Tyr Ser Arg Ala Asn Glu Lys Glu Pro Cys Cys Trp
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tgg tta gct aaa gtg agg atg ata aag ggt gag ttt tat gtg ata gaa 408
Trp Leu Ala Lys Val Arg Met Ile Lys Gly Glu Phe Tyr Val Ile Glu
      80             85             90             95
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Tyr Ala Ala Cys Asp Ala Thr Tyr Asn Glu Ile Val Thr Ile Glu Arg

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Lys Ile Lys Leu Glu Val Pro Glu Asp Leu Arg Gln Met Cys Ala Lys			
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Glu Ser Ala His Lys Asp Phe Lys Lys Ala Val Gly Ala Phe Ser Val			
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Thr Tyr Asp Pro Glu Asn Tyr Gln Leu Val Ile Leu Ser Ile Asn Glu			
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gtc acc tca aag cga gcc cac atg ttg att gac atg cac ttt cga agt			696
Val Thr Ser Lys Arg Ala His Met Leu Ile Asp Met His Phe Arg Ser			
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ctg cgc acc aag ttg tct ctt ata ctg aga aat gaa gaa gcc agt aaa			744
Leu Arg Thr Lys Leu Ser Leu Ile Leu Arg Asn Glu Glu Ala Ser Lys			
195	200	205	
caa ctg gag agt tca agg cag ctt gcc tca aga ttt cat gaa cag ttt			792
Gln Leu Glu Ser Ser Arg Gln Leu Ala Ser Arg Phe His Glu Gln Phe			
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Ile Val Arg Glu Asp Leu Met Gly Leu Ala Ile Gly Thr His Gly Ala			
225	230	235	
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Asn Ile Gln Gln Ala Arg Lys Val Pro Gly Val Thr Ala Ile Asp Leu			
240	245	250	255
gat gag gat acc tgc aca ttt cat att tat gga gag gat caa gat gca			936

Asp Glu Asp Thr Cys Thr Phe His Ile Tyr Gly Glu Asp Gln Asp Ala	
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Val Lys Lys Ala Arg Ser Phe Leu Glu Phe Ala Glu Asp Val Ile Gln	
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Val Pro Arg Asn Leu Val Gly Lys Val Ile Gly Lys Asn Gly Lys Leu	
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att caa gag atc gtg gac aag tca gga gtt gtg agg gtg agg att gag	1080
Ile Gln Glu Ile Val Asp Lys Ser Gly Val Val Arg Val Arg Ile Glu	
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agt tcc cta cct tcc aat aat tca agg gtt gga cct aac tcc tct gaa	1176
Ser Ser Leu Pro Ser Asn Asn Ser Arg Val Gly Pro Asn Ser Ser Glu	
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gaa aag aaa cat tta gat aca aag gaa aac acc cat ttt tct caa cct	1224
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Phe Val Phe Val Gly Thr Lys Asp Ser Ile Ala Asn Ala Thr Val Leu	
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410	415

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 Asn Arg Pro Arg Asn Pro Arg Glu Ala Lys Gly Arg Thr Ala Asp Gly

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Ser Leu Gln Ser Ala Ser Ser Glu Gly Ser Arg Leu Arg Thr Gly Lys				
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gat cgt aac cag aag aag gaa aag cca gac agc gta gat ggg ctg caa				1944
Asp Arg Asn Gln Lys Lys Glu Lys Pro Asp Ser Val Asp Gly Leu Gln				
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Pro Leu Val Asn Gly Val Pro				
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<212> PRT

<213> Mus musculus

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Phe Pro Pro Pro Val Gly Tyr Asn Lys Asp Ile Asn Glu Ser Asp Glu		
50	55	60
Val Glu Val Tyr Ser Arg Ala Asn Glu Lys Glu Pro Cys Cys Trp Trp		
65	70	75
Leu Ala Lys Val Arg Met Ile Lys Gly Glu Phe Tyr Val Ile Glu Tyr		
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Ala Ala Cys Asp Ala Thr Tyr Asn Glu Ile Val Thr Ile Glu Arg Leu		
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Ile Lys Leu Glu Val Pro Glu Asp Leu Arg Gln Met Cys Ala Lys Glu		
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Ser Ala His Lys Asp Phe Lys Lys Ala Val Gly Ala Phe Ser Val Thr		
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Tyr Asp Pro Glu Asn Tyr Gln Leu Val Ile Leu Ser Ile Asn Glu Val		
165	170	175
Thr Ser Lys Arg Ala His Met Leu Ile Asp Met His Phe Arg Ser Leu		
180	185	190
Arg Thr Lys Leu Ser Leu Ile Leu Arg Asn Glu Glu Ala Ser Lys Gln		
195	200	205
Leu Glu Ser Ser Arg Gln Leu Ala Ser Arg Phe His Glu Gln Phe Ile		
210	215	220
Val Arg Glu Asp Leu Met Gly Leu Ala Ile Gly Thr His Gly Ala Asn		
225	230	235
Ile Gln Gln Ala Arg Lys Val Pro Gly Val Thr Ala Ile Asp Leu Asp		
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 Lys Lys Ala Arg Ser Phe Leu Glu Phe Ala Glu Asp Val Ile Gln Val
 275 280 285
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 Ser Leu Ala Pro Thr Glu Glu Glu Arg Glu Ser Phe Leu Arg Arg Gly
 515 520 525
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 Arg Gly Gly Gly Phe Lys Gly Asn Asp Asp His Ser Arg Thr Asp Asn
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<211> 625

<212> DNA

<213> Mus musculus

<400> 1020

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Thr Phe Ile Lys Gly Lys Glu Arg Lys Thr Tyr Gln Arg Arg Arg Glu
    15             20             25             30
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Gly Gly Gln Glu Glu Asp Ala Ser His Leu Pro Gln Asn Gln Thr Asp
          35             40             45
ggg ggt gag gtg gtc cag gat gtc aac agc agt gta cag atg gta atg 492
Gly Gly Glu Val Val Gln Asp Val Asn Ser Ser Val Gln Met Val Met
          50             55             60
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Met Glu Gln Leu Asp Pro Thr Leu Leu Gln Met Lys Thr Glu Val Met
          65             70             75
gag ggt aca gtg gct ccg gaa gca gag gct gca gtg gac gat acc cag 588
Glu Gly Thr Val Ala Pro Glu Ala Glu Ala Ala Val Asp Asp Thr Gln

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Ala Thr Thr Ser Val Glu Glu Leu Gln Gly Ala Tyr Glu Asn Glu Val			
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Ser Lys Glu Gly Leu Ala Glu Ser Glu Pro Met Ile Cys His Thr Leu			
	145	150	155
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Thr Lys Lys Ser Lys Leu Arg Tyr Thr Glu Glu Gly Lys Asp Val Asp			
	210	215	220
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Val Ser Val Tyr Asp Phe Glu Glu Glu Gln Gln Glu Gly Leu Leu Ser			
	225	230	235
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 Cys Ser Tyr Thr Cys Pro Arg Arg Ser Asn Leu Asp Arg His Met Lys
 275 280 285
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 Phe Lys Cys Ser Met Cys Asp Tyr Ala Ser Val Glu Val Ser Lys Leu
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 Lys Arg His Ile Arg Ser His Thr Gly Glu Arg Pro Phe Gln Cys Ser
 370 375 380
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 Ala Arg Lys Ser Asp Leu Gly Val His Leu Arg Lys Gln His Ser Tyr
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 Arg Tyr Ala Leu Ile Gln His Gln Lys Ser His Lys Asn Glu Lys Arg
 480 485 490
 ttc aag tgt gac cag tgt gat tat gct tgt aga cag gag cgg cac atg 1836
 Phe Lys Cys Asp Gln Cys Asp Tyr Ala Cys Arg Gln Glu Arg His Met
 495 500 505 510
 atc atg cac aag cgc act cac acg ggg gag aag cct tat gcc tgc agc 1884
 Ile Met His Lys Arg Thr His Thr Gly Glu Lys Pro Tyr Ala Cys Ser
 515 520 525
 cac tgc gac aag acc ttc cgc cag aaa cag ctc ctc gac atg cat ttc 1932
 His Cys Asp Lys Thr Phe Arg Gln Lys Gln Leu Leu Asp Met His Phe
 530 535 540
 aag cgc tat cat gat ccc aac ttt gtc cct gct gcc ttt gtc tgt tcc 1980
 Lys Arg Tyr His Asp Pro Asn Phe Val Pro Ala Ala Phe Val Cys Ser

545	550	555	
aag tgt ggg aaa aca ttc acc cgc cgg aac aca atg gca aga cat gca			2028
Lys Cys Gly Lys Thr Phe Thr Arg Arg Asn Thr Met Ala Arg His Ala			
560	565	570	
gat aac tgt gct ggt cca gat ggc gta gag ggg gaa aat gga ggg gag			2076
Asp Asn Cys Ala Gly Pro Asp Gly Val Glu Gly Glu Asn Gly Gly Glu			
575	580	585	590
aca aag aag agc aaa cga gga aga aaa aga aag atg cga tct aaa aaa			2124
Thr Lys Lys Ser Lys Arg Gly Arg Lys Arg Lys Met Arg Ser Lys Lys			
595	600	605	
gaa gac tcc tct gac agt gaa gaa aat gct gag ccg gat ctc gat gac			2172
Glu Asp Ser Ser Asp Ser Glu Glu Asn Ala Glu Pro Asp Leu Asp Asp			
610	615	620	
aat gag gag gag gag gag cct gct gta gaa att gaa cct gag cca gag			2220
Asn Glu Glu Glu Glu Glu Pro Ala Val Glu Ile Glu Pro Glu Pro Glu			
625	630	635	
cct cag ccc cag cct ccg cct cca cct cag cct gtg gcc ccg gcc ccc			2268
Pro Gln Pro Gln Pro Pro Pro Pro Pro Gln Pro Val Ala Pro Ala Pro			
640	645	650	
cca cct gcc aag aag aga agg ggg cga cct cct gga aga acc aac cag			2316
Pro Pro Ala Lys Lys Arg Arg Gly Arg Pro Pro Gly Arg Thr Asn Gln			
655	660	665	670
ccc aaa cag aac cag cca aca gcc atc att cag gtc gaa gat cag aat			2364
Pro Lys Gln Asn Gln Pro Thr Ala Ile Ile Gln Val Glu Asp Gln Asn			
675	680	685	
aca ggt gca att gag aac att att gtt gaa gtc aaa aag gag cca gat			2412
Thr Gly Ala Ile Glu Asn Ile Ile Val Glu Val Lys Lys Glu Pro Asp			
690	695	700	
gcc gag cct gcg gag ggg gaa gaa gag gag gct cag gca gcc acc aca			2460

Ala Glu Pro Ala Glu Gly Glu Glu Glu Glu Ala Gln Ala Ala Thr Thr

705

710

715

gac gcc ccc aac gga gac ctc acg cct gag atg atc ctc agc atg atg 2508

Asp Ala Pro Asn Gly Asp Leu Thr Pro Glu Met Ile Leu Ser Met Met

720

725

730

gac cgg tga tgctggggcc ttgctcggca ccaggactat tgggctgtgt 2557

Asp Arg

735

ttaaacggcc ccaaacttta atttttcttc tttttttct tggcttggg gaacggcata 2617

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ggacttttaa cctggttttg ggttttggtt ttcctgactc cttttgctca gagtacttg 2977

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3840

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<211> 736

<212> PRT

<213> Mus musculus

<400> 1022

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 35 40 45
 Glu Val Val Gln Asp Val Asn Ser Ser Val Gln Met Val Met Met Glu
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 Gln Leu Asp Pro Thr Leu Leu Gln Met Lys Thr Glu Val Met Glu Gly
 65 70 75 80
 Thr Val Ala Pro Glu Ala Glu Ala Ala Val Asp Asp Thr Gln Ile Ile
 85 90 95
 Thr Leu Gln Val Val Asn Met Glu Glu Gln Pro Ile Asn Ile Gly Glu
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 Leu Gln Leu Val Gln Val Pro Val Pro Val Thr Val Pro Val Ala Thr
 115 120 125
 Thr Ser Val Glu Glu Leu Gln Gly Ala Tyr Glu Asn Glu Val Ser Lys
 130 135 140
 Glu Gly Leu Ala Glu Ser Glu Pro Met Ile Cys His Thr Leu Pro Leu
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 Pro Glu Gly Phe Gln Val Val Lys Val Gly Ala Asn Gly Glu Val Glu

	165		170		175										
Thr	Leu	Glu	Gln	Gly	Glu	Leu	Pro	Pro	Gln	Glu	Asp	Ser	Ser	Trp	Gln
	180		185		190										
Lys	Asp	Pro	Asp	Tyr	Gln	Pro	Pro	Ala	Lys	Lys	Thr	Lys	Lys	Thr	Lys
	195		200		205										
Lys	Ser	Lys	Leu	Arg	Tyr	Thr	Glu	Glu	Gly	Lys	Asp	Val	Asp	Val	Ser
	210		215		220										
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Asn	Ala	Glu	Lys	Val	Val	Gly	Asn	Met	Lys	Pro	Pro	Lys	Pro	Thr	Lys
	245		250		255										
Ile	Lys	Lys	Lys	Gly	Val	Lys	Lys	Thr	Phe	Gln	Cys	Glu	Leu	Cys	Ser
	260		265		270										
Tyr	Thr	Cys	Pro	Arg	Arg	Ser	Asn	Leu	Asp	Arg	His	Met	Lys	Ser	His
	275		280		285										
Thr	Asp	Glu	Arg	Pro	His	Lys	Cys	His	Leu	Cys	Gly	Arg	Ala	Phe	Arg
	290		295		300										
Thr	Val	Thr	Leu	Leu	Arg	Asn	His	Leu	Asn	Thr	His	Thr	Gly	Thr	Arg
305			310		315									320	
Pro	His	Lys	Cys	Pro	Asp	Cys	Asp	Met	Ala	Phe	Val	Thr	Ser	Gly	Glu
	325		330		335										
Leu	Val	Arg	His	Arg	Arg	Tyr	Lys	His	Thr	His	Glu	Lys	Pro	Phe	Lys
	340		345		350										
Cys	Ser	Met	Cys	Asp	Tyr	Ala	Ser	Val	Glu	Val	Ser	Lys	Leu	Lys	Arg
	355		360		365										
His	Ile	Arg	Ser	His	Thr	Gly	Glu	Arg	Pro	Phe	Gln	Cys	Ser	Leu	Cys
	370		375		380										
Ser	Tyr	Ala	Ser	Arg	Asp	Thr	Tyr	Lys	Leu	Lys	Arg	His	Met	Arg	Thr
385			390		395									400	

His Ser Gly Glu Lys Pro Tyr Glu Cys Tyr Ile Cys His Ala Arg Phe
 405 410 415
 Thr Gln Ser Gly Thr Met Lys Met His Ile Leu Gln Lys His Thr Glu
 420 425 430
 Asn Val Ala Lys Phe His Cys Pro His Cys Asp Thr Val Ile Ala Arg
 435 440 445
 Lys Ser Asp Leu Gly Val His Leu Arg Lys Gln His Ser Tyr Ile Glu
 450 455 460
 Gln Gly Lys Lys Cys Arg Tyr Cys Asp Ala Val Phe His Glu Arg Tyr
 465 470 475 480
 Ala Leu Ile Gln His Gln Lys Ser His Lys Asn Glu Lys Arg Phe Lys
 485 490 495
 Cys Asp Gln Cys Asp Tyr Ala Cys Arg Gln Glu Arg His Met Ile Met
 500 505 510
 His Lys Arg Thr His Thr Gly Glu Lys Pro Tyr Ala Cys Ser His Cys
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 Asp Lys Thr Phe Arg Gln Lys Gln Leu Leu Asp Met His Phe Lys Arg
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 Tyr His Asp Pro Asn Phe Val Pro Ala Ala Phe Val Cys Ser Lys Cys
 545 550 555 560
 Gly Lys Thr Phe Thr Arg Arg Asn Thr Met Ala Arg His Ala Asp Asn
 565 570 575
 Cys Ala Gly Pro Asp Gly Val Glu Gly Glu Asn Gly Gly Glu Thr Lys
 580 585 590
 Lys Ser Lys Arg Gly Arg Lys Arg Lys Met Arg Ser Lys Lys Glu Asp
 595 600 605
 Ser Ser Asp Ser Glu Glu Asn Ala Glu Pro Asp Leu Asp Asp Asn Glu
 610 615 620
 Glu Glu Glu Glu Pro Ala Val Glu Ile Glu Pro Glu Pro Glu Pro Gln

625 630 635 640
 Pro Gln Pro Pro Pro Pro Pro Gln Pro Val Ala Pro Ala Pro Pro Pro
 645 650 655
 Ala Lys Lys Arg Arg Gly Arg Pro Pro Gly Arg Thr Asn Gln Pro Lys
 660 665 670
 Gln Asn Gln Pro Thr Ala Ile Ile Gln Val Glu Asp Gln Asn Thr Gly
 675 680 685
 Ala Ile Glu Asn Ile Ile Val Glu Val Lys Lys Glu Pro Asp Ala Glu
 690 695 700
 Pro Ala Glu Gly Glu Glu Glu Glu Ala Gln Ala Ala Thr Thr Asp Ala
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<211> 678

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (1).. (678)

<400> 1023

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 gag ccc ggg ggc agc cgg ccc gtg tcg gcg cag cgg cgc gtg tgt ccc 96
 Glu Pro Gly Gly Ser Arg Pro Val Ser Ala Gln Arg Arg Val Cys Pro

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cgc ggt acc aag tca ctt tgc cag aaa cag ctc ctc atc ctg ctg tcc	144		
Arg Gly Thr Lys Ser Leu Cys Gln Lys Gln Leu Leu Ile Leu Leu Ser			
35	40	45	
aag gtg cga ctg tgc ggg ggg cgt ccc acg cga cag gac cgc ggc cca	192		
Lys Val Arg Leu Cys Gly Gly Arg Pro Thr Arg Gln Asp Arg Gly Pro			
50	55	60	
gag cct cag ctc aaa ggc atc gtc acc aaa ctg ttc tgc cgc cag ggt	240		
Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu Phe Cys Arg Gln Gly			
65	70	75	80
ttc tac ctc cag gcg aat ccc gat ggg agt atc cag ggc acc cca gag	288		
Phe Tyr Leu Gln Ala Asn Pro Asp Gly Ser Ile Gln Gly Thr Pro Glu			
85	90	95	
gac acc agc tcc ttc acc cac ttc aat ctg att cct gtg gga ctc cgt	336		
Asp Thr Ser Ser Phe Thr His Phe Asn Leu Ile Pro Val Gly Leu Arg			
100	105	110	
gtg gtc acc atc cag agt gcc aag ctg ggt cac tac atg gcc atg aac	384		
Val Val Thr Ile Gln Ser Ala Lys Leu Gly His Tyr Met Ala Met Asn			
115	120	125	
gct gag ggg cta ttg tac agc tgc cca cat ttc aca gca gag tgt cgc	432		
Ala Glu Gly Leu Leu Tyr Ser Ser Pro His Phe Thr Ala Glu Cys Arg			
130	135	140	
ttt aag gag tgc gtc ttt gag aat tac tat gtc ctg tat gcc tct gct	480		
Phe Lys Glu Cys Val Phe Glu Asn Tyr Tyr Val Leu Tyr Ala Ser Ala			
145	150	155	160
ctc tac cgt cag cgt cgt tct ggc cgg gcc tgg tac cta ggc ctg gac	528		
Leu Tyr Arg Gln Arg Arg Ser Gly Arg Ala Trp Tyr Leu Gly Leu Asp			
165	170	175	
aag gaa ggc cgg gtc atg aag gga aac cga gtc aag aag acc aag gca	576		

Lys Glu Gly Arg Val Met Lys Gly Asn Arg Val Lys Lys Thr Lys Ala
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 gct gcc cac ttt gtg ccc aag ctc ctg gag gtg gcc atg tac cgg gag 624
 Ala Ala His Phe Val Pro Lys Leu Leu Glu Val Ala Met Tyr Arg Glu
 195 200 205
 cct tct ctc cac agt gtt cct gag acc tcc cct tcc agt ccc cct gcc 672
 Pro Ser Leu His Ser Val Pro Glu Thr Ser Pro Ser Ser Pro Pro Ala
 210 215 220
 cac tga 678
 His
 225

<210> 1024

<211> 225

<212> PRT

<213> Mus musculus

<400> 1024

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 20 25 30
 Arg Gly Thr Lys Ser Leu Cys Gln Lys Gln Leu Leu Ile Leu Leu Ser
 35 40 45
 Lys Val Arg Leu Cys Gly Gly Arg Pro Thr Arg Gln Asp Arg Gly Pro
 50 55 60
 Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu Phe Cys Arg Gln Gly
 65 70 75 80
 Phe Tyr Leu Gln Ala Asn Pro Asp Gly Ser Ile Gln Gly Thr Pro Glu

	85		90		95
Asp Thr Ser Ser Phe Thr His Phe Asn Leu Ile Pro Val Gly Leu Arg					
	100		105		110
Val Val Thr Ile Gln Ser Ala Lys Leu Gly His Tyr Met Ala Met Asn					
	115		120		125
Ala Glu Gly Leu Leu Tyr Ser Ser Pro His Phe Thr Ala Glu Cys Arg					
	130		135		140
Phe Lys Glu Cys Val Phe Glu Asn Tyr Tyr Val Leu Tyr Ala Ser Ala					
145		150		155	160
Leu Tyr Arg Gln Arg Arg Ser Gly Arg Ala Trp Tyr Leu Gly Leu Asp					
	165		170		175
Lys Glu Gly Arg Val Met Lys Gly Asn Arg Val Lys Lys Thr Lys Ala					
	180		185		190
Ala Ala His Phe Val Pro Lys Leu Leu Glu Val Ala Met Tyr Arg Glu					
	195		200		205
Pro Ser Leu His Ser Val Pro Glu Thr Ser Pro Ser Ser Pro Pro Ala					
	210		215		220
His					
225					

<210> 1025

<211> 1505

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (44).. (1252)

<400> 1025

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Ala Leu Thr Ser Phe Leu Gly Pro Phe Leu Leu Ala Trp Val Leu Pro
   5             10             15             20
ctt gcc cga ggc cag acc ccc aac tac acg aga cct gtg ttc ctg tgc 151
Leu Ala Arg Gly Gln Thr Pro Asn Tyr Thr Arg Pro Val Phe Leu Cys
           25             30             35
gga ggg gac gtg acc ggg gag tca ggt tac gtg gca agt gag ggt ttc 199
Gly Gly Asp Val Thr Gly Glu Ser Gly Tyr Val Ala Ser Glu Gly Phe
           40             45             50
ccc aac ctc tac ccc cca aac aag aag tgc atc tgg aca att acg gtg 247
Pro Asn Leu Tyr Pro Pro Asn Lys Lys Cys Ile Trp Thr Ile Thr Val
           55             60             65
ccc gag ggc cag act gtg tcc ctg tcc ttc cga gtc ttc gat atg gag 295
Pro Glu Gly Gln Thr Val Ser Leu Ser Phe Arg Val Phe Asp Met Glu
           70             75             80
ctc cac cct tcc tgc cgc tac gat gct ctg gag gtc ttt gct ggc tct 343
Leu His Pro Ser Cys Arg Tyr Asp Ala Leu Glu Val Phe Ala Gly Ser
           85             90             95             100
ggc acc tca ggc cag cga ctt gga cgc ttc tgc ggc acc ttc agg cct 391
Gly Thr Ser Gly Gln Arg Leu Gly Arg Phe Cys Gly Thr Phe Arg Pro
           105             110             115
gca cct gta gtc gca cct ggc aac caa gtg act tta agg atg aca act 439
Ala Pro Val Val Ala Pro Gly Asn Gln Val Thr Leu Arg Met Thr Thr
           120             125             130
gac gag ggc acc ggg gga cga ggc ttc ctg ctc tgg tac agc ggc cgg 487

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Asp Glu Gly Thr Gly Gly Arg Gly Phe Leu Leu Trp Tyr Ser Gly Arg
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 gcc act tcg ggc act gag cac cag ttt tgt ggg ggg cgg atg gag aag 535
 Ala Thr Ser Gly Thr Glu His Gln Phe Cys Gly Gly Arg Met Glu Lys
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 Ala Gln Gly Thr Leu Thr Thr Pro Asn Trp Pro Glu Ser Tyr Tyr Pro
 165 170 175 180
 cca ggc atc agc tgt tcc tgg cac atc att gca ccc tca aac cag gtg 631
 Pro Gly Ile Ser Cys Ser Trp His Ile Ile Ala Pro Ser Asn Gln Val
 185 190 195
 atc atg cta acc ttt ggg aag ttt gat gtg gag cct gac acg tac tgc 679
 Ile Met Leu Thr Phe Gly Lys Phe Asp Val Glu Pro Asp Thr Tyr Cys
 200 205 210
 cga tat gac tct gtc agt gtg ttt aac gga gct gtg agt gac gac tca 727
 Arg Tyr Asp Ser Val Ser Val Phe Asn Gly Ala Val Ser Asp Asp Ser
 215 220 225
 aag agg ctg ggg aaa ttt tgc gga gac aag gcc cct agc ccc atc tct 775
 Lys Arg Leu Gly Lys Phe Cys Gly Asp Lys Ala Pro Ser Pro Ile Ser
 230 235 240
 tct gaa ggg aac gag ctc ctg gtc cag ttt gta tca gat ctc agt gtc 823
 Ser Glu Gly Asn Glu Leu Leu Val Gln Phe Val Ser Asp Leu Ser Val
 245 250 255 260
 acc gca gat ggc ttc tca gcc tcc tac agg acc ctg cca cgg gat gcc 871
 Thr Ala Asp Gly Phe Ser Ala Ser Tyr Arg Thr Leu Pro Arg Asp Ala
 265 270 275
 gta gag aag gag tca gcc ctg agt cca ggg gag gac gta cag cgt ggt 919
 Val Glu Lys Glu Ser Ala Leu Ser Pro Gly Glu Asp Val Gln Arg Gly
 280 285 290

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 295 300 305
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 Pro Pro Thr Lys Pro Lys Ser Gln Pro Ala Glu Thr Pro Glu Ala Ser
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 Cys Pro Lys Gln Tyr Lys Arg Ser Gly Thr Leu Gln Ser Asn Phe Cys
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<211> 402

<212> PRT

<213> Mus musculus

<400> 1026

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 Ser Glu Gly Phe Pro Asn Leu Tyr Pro Pro Asn Lys Lys Cys Ile Trp
 50 55 60
 Thr Ile Thr Val Pro Glu Gly Gln Thr Val Ser Leu Ser Phe Arg Val
 65 70 75 80
 Phe Asp Met Glu Leu His Pro Ser Cys Arg Tyr Asp Ala Leu Glu Val
 85 90 95
 Phe Ala Gly Ser Gly Thr Ser Gly Gln Arg Leu Gly Arg Phe Cys Gly
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 Thr Phe Arg Pro Ala Pro Val Val Ala Pro Gly Asn Gln Val Thr Leu
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 130 135 140
 Tyr Ser Gly Arg Ala Thr Ser Gly Thr Glu His Gln Phe Cys Gly Gly
 145 150 155 160
 Arg Met Glu Lys Ala Gln Gly Thr Leu Thr Thr Pro Asn Trp Pro Glu
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 Ser Tyr Tyr Pro Pro Gly Ile Ser Cys Ser Trp His Ile Ile Ala Pro
 180 185 190
 Ser Asn Gln Val Ile Met Leu Thr Phe Gly Lys Phe Asp Val Glu Pro

195	200	205
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210	215	220
Ser Asp Asp Ser Lys Arg Leu Gly Lys Phe Cys Gly Asp Lys Ala Pro		
225	230	235
Ser Pro Ile Ser Ser Glu Gly Asn Glu Leu Leu Val Gln Phe Val Ser		
245	250	255
Asp Leu Ser Val Thr Ala Asp Gly Phe Ser Ala Ser Tyr Arg Thr Leu		
260	265	270
Pro Arg Asp Ala Val Glu Lys Glu Ser Ala Leu Ser Pro Gly Glu Asp		
275	280	285
Val Gln Arg Gly Pro Gln Ser Arg Ser Asp Pro Lys Thr Gly Thr Gly		
290	295	300
Pro Lys Val Lys Pro Pro Thr Lys Pro Lys Ser Gln Pro Ala Glu Thr		
305	310	315
Pro Glu Ala Ser Pro Ala Thr Gln Ala Thr Pro Val Ala Pro Ala Ala		
325	330	335
Pro Ser Ile Thr Cys Pro Lys Gln Tyr Lys Arg Ser Gly Thr Leu Gln		
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Ser Asn Phe Cys Ser Ser Ser Leu Val Val Thr Gly Thr Val Lys Thr		
355	360	365
Met Val Arg Gly Pro Gly Glu Gly Leu Thr Val Thr Val Ser Leu Leu		
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<210> 1027

<211> 8212

<212> DNA

<213> *Mus musculus*

<400> 1027

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 His Gly Ser Val Gly Pro Ala Gly Lys His Gly Asn Arg Gly Glu Pro
 975 980 985
 ggt cct gcc ggt tct gtt ggt cct gtt ggt gct gtt ggt cca aga ggt 3088
 Gly Pro Ala Gly Ser Val Gly Pro Val Gly Ala Val Gly Pro Arg Gly
 990 995 1000
 cct agt ggt cct caa ggc atc cga ggt gac aaa gga gaa cct ggt gat 3136
 Pro Ser Gly Pro Gln Gly Ile Arg Gly Asp Lys Gly Glu Pro Gly Asp
 1005 1010 1015
 aaa ggg cac agg ggt ctt cct ggc tta aaa gga tac agt gga ttg cag 3184
 Lys Gly His Arg Gly Leu Pro Gly Leu Lys Gly Tyr Ser Gly Leu Gln
 1020 1025 1030 1035

ggt ctt cct ggt ctt gct ggc cta cat ggt gac caa gga gct cct ggt	3232
Gly Leu Pro Gly Leu Ala Gly Leu His Gly Asp Gln Gly Ala Pro Gly	
1040	1045
cct gtg ggt cct gct ggt ccc agg ggt cct gct ggg cct tct gga ccc	3280
Pro Val Gly Pro Ala Gly Pro Arg Gly Pro Ala Gly Pro Ser Gly Pro	
1055	1060
gtt ggc aaa gat ggt aga tct ggg caa cct ggc cca gtc ggg cct gct	3328
Val Gly Lys Asp Gly Arg Ser Gly Gln Pro Gly Pro Val Gly Pro Ala	
1070	1075
ggt gtt cgt ggt tct cag ggt agc caa ggt ccc gct ggt ccc cct ggt	3376
Gly Val Arg Gly Ser Gln Gly Ser Gln Gly Pro Ala Gly Pro Pro Gly	
1085	1090
ccc cct gga cct cct ggt cct cct ggt gtc agc gga ggt ggc tat gac	3424
Pro Pro Gly Pro Pro Gly Pro Pro Gly Val Ser Gly Gly Gly Tyr Asp	
1100	1105
ttt ggt ttt gaa gga gac ttc tac aga gct gac cag cct cgc tcc cag	3472
Phe Gly Phe Glu Gly Asp Phe Tyr Arg Ala Asp Gln Pro Arg Ser Gln	
1120	1125
cct tca ctc aga ccc aag gac tat gaa gtt gat gca act ctg aaa tct	3520
Pro Ser Leu Arg Pro Lys Asp Tyr Glu Val Asp Ala Thr Leu Lys Ser	
1135	1140
ctc aat aac cag att gag acc ctt ctc act cct gaa ggc tct aga aag	3568
Leu Asn Asn Gln Ile Glu Thr Leu Leu Thr Pro Glu Gly Ser Arg Lys	
1150	1155
aac cct gct acg aca acg tgc cgg gac tta aga ctc agc cac cca gag	3616
Asn Pro Ala Thr Thr Thr Cys Arg Asp Leu Arg Leu Ser His Pro Glu	
1165	1170
tgg aac agc gat tac tac tgg att gac cct aac caa gga tgt act atg	3664
Trp Asn Ser Asp Tyr Tyr Trp Ile Asp Pro Asn Gln Gly Cys Thr Met	

1180	1185	1190	1195	
gat gcc atc aaa gtg tac tgt gat ttc tct act ggt gaa acc tgc atc				3712
Asp Ala Ile Lys Val Tyr Cys Asp Phe Ser Thr Gly Glu Thr Cys Ile				
1200	1205	1210		
cag gcc caa cct gta aac acc cca gcg aag aac tca tac agc cgc gcc				3760
Gln Ala Gln Pro Val Asn Thr Pro Ala Lys Asn Ser Tyr Ser Arg Ala				
1215	1220	1225		
cag gcc aac aag cat gtc tgg tta gga gag act atc aat ggt ggc agc				3808
Gln Ala Asn Lys His Val Trp Leu Gly Glu Thr Ile Asn Gly Gly Ser				
1230	1235	1240		
cag ttt gaa tac aac gta gaa ggg gtg tcc tcc aag gaa atg gca act				3856
Gln Phe Glu Tyr Asn Val Glu Gly Val Ser Ser Lys Glu Met Ala Thr				
1245	1250	1255		
cag ctc gcc ttc atg cgc ctg cta gcc aac cgt gct tct cag aac atc				3904
Gln Leu Ala Phe Met Arg Leu Leu Ala Asn Arg Ala Ser Gln Asn Ile				
1260	1265	1270	1275	
acc tac cac tgc aag aac agc att gcg tac ctg gat gag gag acg ggc				3952
Thr Tyr His Cys Lys Asn Ser Ile Ala Tyr Leu Asp Glu Glu Thr Gly				
1280	1285	1290		
agc ttg aac aag gct gtg ctt ctg cag ggt tcc aac gat gtt gaa ctt				4000
Ser Leu Asn Lys Ala Val Leu Leu Gln Gly Ser Asn Asp Val Glu Leu				
1295	1300	1305		
gtt gct gag ggc aac agc agg ttc acc tac tct gtc cta gtc gat ggc				4048
Val Ala Glu Gly Asn Ser Arg Phe Thr Tyr Ser Val Leu Val Asp Gly				
1310	1315	1320		
tgc tcc aaa aag aca aat gaa tgg ggc aag aca atc att gaa tac aaa				4096
Cys Ser Lys Lys Thr Asn Glu Trp Gly Lys Thr Ile Ile Glu Tyr Lys				
1325	1330	1335		
aca aat aag cca tct cgc ctg ccg ttc ctt gac att gca cct ctg gac				4144

Thr Asn Lys Pro Ser Arg Leu Pro Phe Leu Asp Ile Ala Pro Leu Asp
 1340 1345 1350 1355
 att ggt ggt gct gac caa gaa ttc cgt gtg gag gtt ggc ccc gtc tgt 4192
 Ile Gly Gly Ala Asp Gln Glu Phe Arg Val Glu Val Gly Pro Val Cys
 1360 1365 1370
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<210> 1029

<211> 1373

<212> PRT

<213> Mus musculus

<400> 1029

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 35 40 45
 Pro Arg Gly Arg Asp Gly Val Asp Gly Pro Met Gly Pro Pro Gly Pro
 50 55 60
 Pro Gly Ser Pro Gly Pro Pro Gly Ser Pro Ala Pro Pro Gly Leu Thr
 65 70 75 80
 Gly Asn Phe Ala Ala Gln Tyr Ser Asp Lys Gly Val Ser Ser Gly Pro
 85 90 95
 Gly Pro Met Gly Leu Met Gly Pro Arg Gly Pro Pro Gly Ala Val Gly
 100 105 110

Ala Pro Gly Pro Gln Gly Phe Gln Gly Pro Ala Gly Glu Pro Gly Glu
 115 120 125
 Pro Gly Gln Thr Gly Pro Ala Gly Pro Arg Gly Pro Ala Gly Ser Pro
 130 135 140
 Gly Lys Ala Gly Glu Asp Gly His Pro Gly Lys Pro Gly Arg Pro Gly
 145 150 155 160
 Glu Arg Gly Val Val Gly Pro Gln Gly Ala Arg Gly Phe Pro Gly Thr
 165 170 175
 Pro Gly Leu Pro Gly Phe Lys Gly Val Lys Gly His Ser Gly Met Asp
 180 185 190
 Gly Leu Lys Gly Gln Pro Gly Ala Gln Gly Val Lys Gly Glu Pro Gly
 195 200 205
 Ala Pro Gly Glu Asn Gly Thr Pro Gly Gln Ala Gly Ala Arg Gly Leu
 210 215 220
 Pro Gly Glu Arg Gly Arg Val Gly Ala Pro Gly Pro Ala Gly Ala Arg
 225 230 235 240
 Gly Ser Asp Gly Ser Val Gly Pro Val Gly Pro Ala Gly Pro Ile Gly
 245 250 255
 Ser Ala Gly Pro Pro Gly Phe Pro Gly Ala Pro Gly Pro Lys Gly Glu
 260 265 270
 Leu Gly Pro Val Gly Asn Pro Gly Pro Ala Gly Pro Ala Gly Pro Arg
 275 280 285
 Gly Glu Val Gly Leu Pro Gly Leu Ser Gly Pro Val Gly Pro Pro Gly
 290 295 300
 Asn Pro Gly Thr Asn Gly Leu Thr Gly Ala Lys Gly Ala Thr Gly Leu
 305 310 315 320
 Pro Gly Val Ala Gly Ala Pro Gly Leu Pro Gly Pro Arg Gly Ile Pro
 325 330 335
 Gly Pro Ala Gly Ala Ala Gly Ala Thr Gly Ala Arg Gly Leu Val Gly

340	345	350
Glu Pro Gly Pro Ala Gly Ser Lys Gly Glu Ser Gly Asn Lys Gly Glu		
355	360	365
Pro Gly Ser Val Gly Ala Gln Gly Pro Pro Gly Pro Ser Gly Glu Glu		
370	375	380
Gly Lys Arg Gly Ser Pro Gly Glu Ala Gly Ser Ala Gly Pro Ala Gly		
385	390	395
Pro Pro Gly Leu Arg Gly Ser Pro Gly Ser Arg Gly Leu Pro Gly Ala		
405	410	415
Asp Gly Arg Ala Gly Val Met Gly Pro Pro Gly Asn Arg Gly Ser Thr		
420	425	430
Gly Pro Ala Gly Ile Arg Gly Pro Asn Gly Asp Ala Gly Arg Pro Gly		
435	440	445
Glu Pro Gly Leu Met Gly Pro Arg Gly Leu Pro Gly Ser Pro Gly Asn		
450	455	460
Val Gly Pro Ser Gly Lys Glu Gly Pro Val Gly Leu Pro Gly Ile Asp		
465	470	475
Gly Arg Pro Gly Pro Ile Gly Pro Ala Gly Pro Arg Gly Glu Ala Gly		
485	490	495
Asn Ile Gly Phe Pro Gly Pro Lys Gly Pro Ser Gly Asp Pro Gly Lys		
500	505	510
Pro Gly Glu Arg Gly His Pro Gly Leu Ala Gly Ala Arg Gly Ala Pro		
515	520	525
Gly Pro Asp Gly Asn Asn Gly Ala Gln Gly Pro Pro Gly Pro Gln Gly		
530	535	540
Val Gln Gly Gly Lys Gly Glu Gln Gly Pro Ala Gly Pro Pro Gly Phe		
545	550	555
Gln Gly Leu Pro Gly Pro Ser Gly Thr Thr Gly Glu Val Gly Lys Pro		
565	570	575

Gly Glu Arg Gly Leu Pro Gly Glu Phe Gly Leu Pro Gly Pro Ala Gly
 580 585 590
 Pro Arg Gly Glu Arg Gly Thr Pro Gly Glu Ser Gly Ala Ala Gly Pro
 595 600 605
 Ser Gly Pro Ile Gly Ser Arg Gly Pro Ser Gly Ala Pro Gly Pro Asp
 610 615 620
 Gly Asn Lys Gly Glu Ala Gly Ala Val Gly Ala Pro Gly Ser Ala Gly
 625 630 635 640
 Ala Ser Gly Pro Gly Gly Leu Pro Gly Glu Arg Gly Ala Ala Gly Ile
 645 650 655
 Pro Gly Gly Lys Gly Glu Lys Gly Glu Thr Gly Leu Arg Gly Asp Thr
 660 665 670
 Gly Asn Thr Gly Arg Asp Gly Ala Arg Gly Ile Pro Gly Ala Val Gly
 675 680 685
 Ala Pro Gly Pro Ala Gly Ala Ser Gly Asp Arg Gly Glu Ala Gly Ala
 690 695 700
 Ala Gly Pro Ser Gly Pro Ala Gly Pro Arg Gly Ser Pro Gly Glu Arg
 705 710 715 720
 Gly Glu Val Gly Pro Ala Gly Pro Asn Gly Phe Ala Gly Pro Ala Gly
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 Ala Ala Gly Gln Pro Gly Ala Lys Gly Glu Lys Gly Thr Lys Gly Pro
 740 745 750
 Lys Gly Glu Asn Gly Ile Val Gly Pro Thr Gly Ser Val Gly Ala Ala
 755 760 765
 Gly Pro Ser Gly Pro Asn Gly Pro Pro Gly Pro Val Gly Ser Arg Gly
 770 775 780
 Asp Gly Gly Pro Pro Gly Met Thr Gly Phe Pro Gly Ala Ala Gly Arg
 785 790 795 800
 Thr Gly Pro Pro Gly Pro Ser Gly Ile Ala Gly Pro Pro Gly Pro Pro

805	810	815
Gly Ala Ala Gly Lys Glu Gly Ile Arg Gly Pro Arg Gly Asp Gln Gly		
820	825	830
Pro Val Gly Arg Thr Gly Glu Thr Gly Ala Ser Gly Pro Pro Gly Phe		
835	840	845
Val Gly Glu Lys Gly Pro Ser Gly Glu Pro Gly Thr Ala Gly Ala Pro		
850	855	860
Gly Thr Ala Gly Pro Gln Gly Leu Leu Gly Ala Pro Gly Ile Leu Gly		
865	870	875
Leu Pro Gly Ser Arg Gly Glu Arg Gly Leu Pro Gly Ile Ala Gly Ala		880
885	890	895
Leu Gly Glu Pro Gly Pro Leu Gly Ile Ser Gly Pro Pro Gly Ala Arg		
900	905	910
Gly Pro Pro Gly Ala Val Gly Ser Pro Gly Val Asn Gly Ala Pro Gly		
915	920	925
Glu Ala Gly Arg Asp Gly Asn Pro Gly Ser Asp Gly Pro Pro Gly Arg		
930	935	940
Asp Gly Gln Pro Gly His Lys Gly Glu Arg Gly Tyr Pro Gly Ser Ile		
945	950	955
Gly Pro Thr Gly Ala Ala Gly Ala Pro Gly Pro His Gly Ser Val Gly		960
965	970	975
Pro Ala Gly Lys His Gly Asn Arg Gly Glu Pro Gly Pro Ala Gly Ser		
980	985	990
Val Gly Pro Val Gly Ala Val Gly Pro Arg Gly Pro Ser Gly Pro Gln		
995	1000	1005
Gly Ile Arg Gly Asp Lys Gly Glu Pro Gly Asp Lys Gly His Arg Gly		
1010	1015	1020
Leu Pro Gly Leu Lys Gly Tyr Ser Gly Leu Gln Gly Leu Pro Gly Leu		
1025	1030	1035
		1040

Ala Gly Leu His Gly Asp Gln Gly Ala Pro Gly Pro Val Gly Pro Ala
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 1075 1080 1085
 Gln Gly Ser Gln Gly Pro Ala Gly Pro Pro Gly Pro Pro Gly Pro Pro
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 Gly Pro Pro Gly Val Ser Gly Gly Gly Tyr Asp Phe Gly Phe Glu Gly
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 1125 1130 1135
 Lys Asp Tyr Glu Val Asp Ala Thr Leu Lys Ser Leu Asn Asn Gln Ile
 1140 1145 1150
 Glu Thr Leu Leu Thr Pro Glu Gly Ser Arg Lys Asn Pro Ala Thr Thr
 1155 1160 1165
 Thr Cys Arg Asp Leu Arg Leu Ser His Pro Glu Trp Asn Ser Asp Tyr
 1170 1175 1180
 Tyr Trp Ile Asp Pro Asn Gln Gly Cys Thr Met Asp Ala Ile Lys Val
 185 1190 1195 1200
 Tyr Cys Asp Phe Ser Thr Gly Glu Thr Cys Ile Gln Ala Gln Pro Val
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 Asn Thr Pro Ala Lys Asn Ser Tyr Ser Arg Ala Gln Ala Asn Lys His
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 Val Trp Leu Gly Glu Thr Ile Asn Gly Gly Ser Gln Phe Glu Tyr Asn
 1235 1240 1245
 Val Glu Gly Val Ser Ser Lys Glu Met Ala Thr Gln Leu Ala Phe Met
 1250 1255 1260
 Arg Leu Leu Ala Asn Arg Ala Ser Gln Asn Ile Thr Tyr His Cys Lys

265 1270 1275 1280
 Asn Ser Ile Ala Tyr Leu Asp Glu Glu Thr Gly Ser Leu Asn Lys Ala
 1285 1290 1295
 Val Leu Leu Gln Gly Ser Asn Asp Val Glu Leu Val Ala Glu Gly Asn
 1300 1305 1310
 Ser Arg Phe Thr Tyr Ser Val Leu Val Asp Gly Cys Ser Lys Lys Thr
 1315 1320 1325
 Asn Glu Trp Gly Lys Thr Ile Ile Glu Tyr Lys Thr Asn Lys Pro Ser
 1330 1335 1340
 Arg Leu Pro Phe Leu Asp Ile Ala Pro Leu Asp Ile Gly Gly Ala Asp
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 1365 1370

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<211> 494

<212> DNA

<213> Mus musculus

<400> 1030

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 aatctgccgg agaatcttca aggctttgtc tggcaciaaag gggtatttcc agttgaccat 180
 ttttaagatag caagccattc attcctcacc aattcaacca tgctggggcg cacatatatta 240
 gacagactga ccgtatgcag tgatggatcc ctgctgctct cgaaggcttc acaggaagac 300
 acaggacttt acagcctacg aaccatacct gtggatttga tgcagaatc tgccattgtg 360
 tacctcaaag taaacaaaca tggaagatgg gcttcaggca atcaacaacc accacatcaa 420
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494

<210> 1031

<211> 413

<212> DNA

<213> Mus musculus

<400> 1031

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gtcattttgaa gacgtagcag tggacttcac ttggcaggaa tggcaggagc tggatgctgc 180
tcagaggacc ctctacaggg acgtgatgct ggagaactat agcagccctg taccaccttg 240
cagaagctca tcacaactgg gcttatgat ggtttatact ctcgctcctt cccagcatcc 300
aactgctccc taccaactgg cagctctgca gactgcctag agaaaagatt tagagtaagt 360
gccaggaaac actaggggaag tagccacagc ctccatctat gttgttttgg aaa      413

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<210> 1032

<211> 302

<212> DNA

<213> Mus musculus

<400> 1032

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ctgccatctc tccacctaca gcctgatttg gggcatggca gcagtagcgc tgagcacagc 180
tcagagtgga agtggtgacc caggatgaaa gaaaggcgct gcacacaact gcacacctac 240
gatgttctct aaaaacatcc caggaaccct tgattgtgac atggcagaaa aagaaagccg 300
tg                                          302

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<210> 1033

<211> 4021

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (269).. (2239)

<400> 1033

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gctgctcttg tccttccctc ccgctttttt cctctcctct cttctcggtc taaagatgcc 120
ctcggccacc agccacagcg gaagcggcag caaatcgctc ggaccgccgc cgccgtccgg 180
ttccttcggg agtgaggcgg cagccggggc agctgcgccg gcttctcagc atccggcaac 240
cggcaccgac gccgtccaga ccgaggcc atg aag cag att ctc ggc gta atc 292
                                Met Lys Gln Ile Leu Gly Val Ile
                                1             5
gac aag aaa ctt cgg aac ctg gag aag aaa aag ggt aaa ctt gat gat 340
Asp Lys Lys Leu Arg Asn Leu Glu Lys Lys Lys Gly Lys Leu Asp Asp
    10             15             20
tac cag gaa cga atg aat aaa ggg gaa agg ctc aat caa gac cag ctg 388
Tyr Gln Glu Arg Met Asn Lys Gly Glu Arg Leu Asn Gln Asp Gln Leu
    25             30             35             40
gat gcc gta tct aag tac cag gaa gtc aca aat aat ttg ggg ttt gca 436
Asp Ala Val Ser Lys Tyr Gln Glu Val Thr Asn Asn Leu Gly Phe Ala
            45             50             55
aag gaa tta cag agg agt ttc atg gca tta agt caa gat att cag aaa 484
Lys Glu Leu Gln Arg Ser Phe Met Ala Leu Ser Gln Asp Ile Gln Lys
            60             65             70
aca ata aag aag aca gca cgt cgg gaa cag ctt atg aga gaa gaa gca 532

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Thr Ile Lys Lys Thr Ala Arg Arg Glu Gln Leu Met Arg Glu Glu Ala	
75	80
85	
gaa cag aag cgc tta aaa act gta ctt gag tta cag tat gta ttg gat	580
Glu Gln Lys Arg Leu Lys Thr Val Leu Glu Leu Gln Tyr Val Leu Asp	
90	95
100	
aag ctg gga gat gat gat gtg aga aca gat ctg aaa caa ggt ttg agt	628
Lys Leu Gly Asp Asp Asp Val Arg Thr Asp Leu Lys Gln Gly Leu Ser	
105	110
115	120
gga gtg cca ata ttg tct gag gag gag ttg tca ttg ctg gat gag ttc	676
Gly Val Pro Ile Leu Ser Glu Glu Glu Leu Ser Leu Leu Asp Glu Phe	
125	130
135	
tac aag ctc gta gat cct gag cgt gac atg agt tta agg tta aat gag	724
Tyr Lys Leu Val Asp Pro Glu Arg Asp Met Ser Leu Arg Leu Asn Glu	
140	145
150	
cag tat gaa cat gcc tca att cac ttg tgg gat ttg ctg gaa ggg aaa	772
Gln Tyr Glu His Ala Ser Ile His Leu Trp Asp Leu Leu Glu Gly Lys	
155	160
165	
gaa aag cct gtg tgt gga aca acc tat aaa gct cta aag gaa att gtt	820
Glu Lys Pro Val Cys Gly Thr Thr Tyr Lys Ala Leu Lys Glu Ile Val	
170	175
180	
gag cgt gtt ttc cag tca aac tac ttt gat agc act cac aat cat caa	868
Glu Arg Val Phe Gln Ser Asn Tyr Phe Asp Ser Thr His Asn His Gln	
185	190
195	200
aat ggg ttg tgt gag gag gaa gag gcg gct tca gcg ccc aca gcg gag	916
Asn Gly Leu Cys Glu Glu Glu Glu Ala Ala Ser Ala Pro Thr Ala Glu	
205	210
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Asp Gln Val Ala Glu Ala Glu Pro Glu Pro Ala Glu Glu Tyr Thr Glu	
220	225
230	

caa agt gag gtt gaa tca aca gag tat gtc aat agg cag ttc atg gca 1012
 Gln Ser Glu Val Glu Ser Thr Glu Tyr Val Asn Arg Gln Phe Met Ala
 235 240 245
 gaa aca cag ttc agc agt ggt gag aag gag caa gtg gat gag tgg aca 1060
 Glu Thr Gln Phe Ser Ser Gly Glu Lys Glu Gln Val Asp Glu Trp Thr
 250 255 260
 gtt gaa aca gtt gag gtt gta aac tca ctc cag cag caa cct cag gct 1108
 Val Glu Thr Val Glu Val Val Asn Ser Leu Gln Gln Gln Pro Gln Ala
 265 270 275 280
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 Ser Asp Pro Leu Val Arg Arg Gln Arg Val Gln Asp Leu Met Ala Gln
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 atg caa ggg ccc tat aat ttc ata cag gat tca atg ttg gat ttt gaa 1252
 Met Gln Gly Pro Tyr Asn Phe Ile Gln Asp Ser Met Leu Asp Phe Glu
 315 320 325
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 Asn Gln Thr Leu Asp Pro Ala Ile Val Ser Ala Gln Pro Met Asn Pro
 330 335 340
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 Thr Gln Asn Met Asp Met Pro His Val Val Cys Pro Gln Val His Ser
 345 350 355 360
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 Glu Ser Arg Leu Ala Gln Ser Asn Gln Val Pro Val Gln Pro Glu Ala
 365 370 375
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 Thr Gln Val Pro Leu Val Ser Ser Thr Ser Glu Gly Tyr Thr Ala Ser

380	385	390	
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Gln Pro Leu Tyr Gln Pro Ser His Ala Thr Glu Gln Arg Pro Gln Lys			
395	400	405	
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Glu Pro Met Asp Gln Ile Gln Ala Thr Ile Ser Leu Asn Thr Asp Gln			
410	415	420	
act aca gca tcc tca tcc ctt cct gct gct tct cag cct caa gtg ttc			1588
Thr Thr Ala Ser Ser Ser Leu Pro Ala Ala Ser Gln Pro Gln Val Phe			
425	430	435	440
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Gln Ala Gly Thr Ser Lys Pro Leu His Ser Ser Gly Ile Asn Val Asn			
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gca gct cca ttc cag tcc atg caa acg gtg ttc aat atg aat gct cca			1684
Ala Ala Pro Phe Gln Ser Met Gln Thr Val Phe Asn Met Asn Ala Pro			
460	465	470	
gtc cct cct gct aat gaa cca gaa acg tta aaa caa cag agt cag tac			1732
Val Pro Pro Ala Asn Glu Pro Glu Thr Leu Lys Gln Gln Ser Gln Tyr			
475	480	485	
cag gcc act tat aac cag agt ttt tcc agt cag cct cac caa gtg gaa			1780
Gln Ala Thr Tyr Asn Gln Ser Phe Ser Ser Gln Pro His Gln Val Glu			
490	495	500	
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Gln Thr Glu Leu Gln Gln Asp Gln Leu Gln Thr Val Val Gly Thr Tyr			
505	510	515	520
cat gga tcc cag gac cag cct cat caa gtg cct ggt aac cac cag caa			1876
His Gly Ser Gln Asp Gln Pro His Gln Val Pro Gly Asn His Gln Gln			
525	530	535	
ccc cca cag cag aac act ggc ttt cca cgt agc agt cag cct tat tac			1924

Pro Pro Gln Gln Asn Thr Gly Phe Pro Arg Ser Ser Gln Pro Tyr Tyr
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 aac agt cgt ggg gta tct cga gga ggg tct cgt ggt gcc aga ggc ttg 1972
 Asn Ser Arg Gly Val Ser Arg Gly Gly Ser Arg Gly Ala Arg Gly Leu
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 Ser Gln Phe Thr Ala Pro Arg Asp Tyr Ser Gly Tyr Gln Arg Asp Gly
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 Tyr Gln Gln Asn Phe Lys Arg Gly Ser Gly Gln Ser Gly Pro Arg Gly
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 Gln Met Asn Thr Gln Gln Val Asn
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<210> 1034

<211> 656

<212> PRT

<213> Mus musculus

<400> 1034

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 35 40 45
 Val Thr Asn Asn Leu Gly Phe Ala Lys Glu Leu Gln Arg Ser Phe Met
 50 55 60
 Ala Leu Ser Gln Asp Ile Gln Lys Thr Ile Lys Lys Thr Ala Arg Arg
 65 70 75 80
 Glu Gln Leu Met Arg Glu Glu Ala Glu Gln Lys Arg Leu Lys Thr Val
 85 90 95
 Leu Glu Leu Gln Tyr Val Leu Asp Lys Leu Gly Asp Asp Asp Val Arg
 100 105 110
 Thr Asp Leu Lys Gln Gly Leu Ser Gly Val Pro Ile Leu Ser Glu Glu
 115 120 125
 Glu Leu Ser Leu Leu Asp Glu Phe Tyr Lys Leu Val Asp Pro Glu Arg
 130 135 140
 Asp Met Ser Leu Arg Leu Asn Glu Gln Tyr Glu His Ala Ser Ile His
 145 150 155 160
 Leu Trp Asp Leu Leu Glu Gly Lys Glu Lys Pro Val Cys Gly Thr Thr
 165 170 175
 Tyr Lys Ala Leu Lys Glu Ile Val Glu Arg Val Phe Gln Ser Asn Tyr
 180 185 190
 Phe Asp Ser Thr His Asn His Gln Asn Gly Leu Cys Glu Glu Glu Glu
 195 200 205
 Ala Ala Ser Ala Pro Thr Ala Glu Asp Gln Val Ala Glu Ala Glu Pro

210	215	220
Glu Pro Ala Glu Glu Tyr Thr Glu Gln Ser Glu Val Glu Ser Thr Glu		
225	230	235
Tyr Val Asn Arg Gln Phe Met Ala Glu Thr Gln Phe Ser Ser Gly Glu		240
	245	250
Lys Glu Gln Val Asp Glu Trp Thr Val Glu Thr Val Glu Val Val Asn		255
	260	265
Ser Leu Gln Gln Gln Pro Gln Ala Ala Ser Pro Ser Val Pro Lys Pro		270
	275	280
His Ser Leu Thr Pro Val Ala Gln Ser Asp Pro Leu Val Arg Arg Gln		285
	290	295
Arg Val Gln Asp Leu Met Ala Gln Met Gln Gly Pro Tyr Asn Phe Ile		300
305	310	315
Gln Asp Ser Met Leu Asp Phe Glu Asn Gln Thr Leu Asp Pro Ala Ile		320
	325	330
Val Ser Ala Gln Pro Met Asn Pro Thr Gln Asn Met Asp Met Pro His		335
	340	345
Val Val Cys Pro Gln Val His Ser Glu Ser Arg Leu Ala Gln Ser Asn		350
	355	360
Gln Val Pro Val Gln Pro Glu Ala Thr Gln Val Pro Leu Val Ser Ser		365
	370	375
Thr Ser Glu Gly Tyr Thr Ala Ser Gln Pro Leu Tyr Gln Pro Ser His		380
385	390	395
Ala Thr Glu Gln Arg Pro Gln Lys Glu Pro Met Asp Gln Ile Gln Ala		400
	405	410
Thr Ile Ser Leu Asn Thr Asp Gln Thr Thr Ala Ser Ser Ser Leu Pro		415
	420	425
Ala Ala Ser Gln Pro Gln Val Phe Gln Ala Gly Thr Ser Lys Pro Leu		430
	435	440
		445

His Ser Ser Gly Ile Asn Val Asn Ala Ala Pro Phe Gln Ser Met Gln
 450 455 460
 Thr Val Phe Asn Met Asn Ala Pro Val Pro Pro Ala Asn Glu Pro Glu
 465 470 475 480
 Thr Leu Lys Gln Gln Ser Gln Tyr Gln Ala Thr Tyr Asn Gln Ser Phe
 485 490 495
 Ser Ser Gln Pro His Gln Val Glu Gln Thr Glu Leu Gln Gln Asp Gln
 500 505 510
 Leu Gln Thr Val Val Gly Thr Tyr His Gly Ser Gln Asp Gln Pro His
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 Pro Arg Ser Ser Gln Pro Tyr Tyr Asn Ser Arg Gly Val Ser Arg Gly
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 Gly Ser Arg Gly Ala Arg Gly Leu Met Asn Gly Tyr Arg Gly Pro Ala
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 Asn Gly Phe Arg Gly Gly Tyr Asp Gly Tyr Arg Pro Ser Phe Ser Asn
 580 585 590
 Thr Pro Asn Ser Gly Tyr Ser Gln Ser Gln Phe Thr Ala Pro Arg Asp
 595 600 605
 Tyr Ser Gly Tyr Gln Arg Asp Gly Tyr Gln Gln Asn Phe Lys Arg Gly
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 Pro Arg Pro Asn Arg Gly Met Pro Gln Met Asn Thr Gln Gln Val Asn
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<210> 1035

<211> 2153

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (151).. (1764)

<400> 1035

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 agcatcagca aggtactgcc ctttccagtt atg aag ctc cag gtg ttg gtg ttg 174

Met Lys Leu Gln Val Leu Val Leu

1

5

gtg ttg ctg atg tcc tgg ttc ggt gtc ctg agc tgg gtg cag gca gaa 222
 Val Leu Leu Met Ser Trp Phe Gly Val Leu Ser Trp Val Gln Ala Glu

10

15

20

ttc ttc acc tcc att ggg cac atg acc gat ctg att tac gca gag aag 270
 Phe Phe Thr Ser Ile Gly His Met Thr Asp Leu Ile Tyr Ala Glu Lys

25

30

35

40

gac ctg gta cag tct ctg aag gag tac atc ctt gtg gag gaa gcc aag 318
 Asp Leu Val Gln Ser Leu Lys Glu Tyr Ile Leu Val Glu Glu Ala Lys

45

50

55

ctc gcc aag att aag agc tgg gcc agc aag atg gaa gcc ctg acc agc 366
 Leu Ala Lys Ile Lys Ser Trp Ala Ser Lys Met Glu Ala Leu Thr Ser

60

65

70

aga tca gct gcc gac ccc gag ggc tac ctg gct cat cct gtg aat gcc 414
 Arg Ser Ala Ala Asp Pro Glu Gly Tyr Leu Ala His Pro Val Asn Ala

75

80

85

tac aag ctg gtg aag cgg ttg aac aca gac tgg cct gca ctg ggg gac 462

Tyr Lys Leu Val Lys Arg Leu Asn Thr Asp Trp Pro Ala Leu Gly Asp
 90 95 100
 ctt gtc ctt cag gat gct tcg gca ggt ttt gtc gct aac ctc tca gtt 510
 Leu Val Leu Gln Asp Ala Ser Ala Gly Phe Val Ala Asn Leu Ser Val
 105 110 115 120
 cag cgg caa ttc ttc ccc act gat gag gac gag tct gga gct gcc aga 558
 Gln Arg Gln Phe Phe Pro Thr Asp Glu Asp Glu Ser Gly Ala Ala Arg
 125 130 135
 gcc ctg atg aga ctt cag gac acg tac aaa ctg gat ccg gac acg att 606
 Ala Leu Met Arg Leu Gln Asp Thr Tyr Lys Leu Asp Pro Asp Thr Ile
 140 145 150
 tcc aga ggg gaa ctt cca ggc aca aag tac cag gcc atg ctg agt gtg 654
 Ser Arg Gly Glu Leu Pro Gly Thr Lys Tyr Gln Ala Met Leu Ser Val
 155 160 165
 gac gac tgc ttt ggg ctg ggc cgc tca gct tac aat gaa gga gac tat 702
 Asp Asp Cys Phe Gly Leu Gly Arg Ser Ala Tyr Asn Glu Gly Asp Tyr
 170 175 180
 tac cat act gtg ctg tgg atg gag cag gta ctg aag cag ctc gat gct 750
 Tyr His Thr Val Leu Trp Met Glu Gln Val Leu Lys Gln Leu Asp Ala
 185 190 195 200
 ggg gag gag gcc act gtt acc aag tcc ctg gtg ctg gac tac ctg agc 798
 Gly Glu Glu Ala Thr Val Thr Lys Ser Leu Val Leu Asp Tyr Leu Ser
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 tat gct gtc ttc caa ctg ggt gac ctg cac cgt gct gtg gaa ctc acc 846
 Tyr Ala Val Phe Gln Leu Gly Asp Leu His Arg Ala Val Glu Leu Thr
 220 225 230
 cgc cgc ctg ctc tct ctt gac cca agc cac gaa cga gct gga ggg aat 894
 Arg Arg Leu Leu Ser Leu Asp Pro Ser His Glu Arg Ala Gly Gly Asn
 235 240 245

ctg cgg tac ttt gaa cgg ttg tta gag gaa gaa aga ggg aaa tca ctg 942
 Leu Arg Tyr Phe Glu Arg Leu Leu Glu Glu Glu Arg Gly Lys Ser Leu
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 tca aat cag aca gac gcc gga ctg gcc acc cag gaa aac ttg tac gag 990
 Ser Asn Gln Thr Asp Ala Gly Leu Ala Thr Gln Glu Asn Leu Tyr Glu
 265 270 275 280
 agg ccc acg gac tac ctg cct gag agg gat gtg tac gag agc ctg tgt 1038
 Arg Pro Thr Asp Tyr Leu Pro Glu Arg Asp Val Tyr Glu Ser Leu Cys
 285 290 295
 cga ggg gag ggc gtg aaa ctg aca ccc cgg agg cag aag aag ctt ttc 1086
 Arg Gly Glu Gly Val Lys Leu Thr Pro Arg Arg Gln Lys Lys Leu Phe
 300 305 310
 tgt agg tac cat cat gga aac aga gtg cca cag ctc ctc atc gcc ccc 1134
 Cys Arg Tyr His His Gly Asn Arg Val Pro Gln Leu Leu Ile Ala Pro
 315 320 325
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 Phe Lys Glu Glu Asp Glu Trp Asp Ser Pro His Ile Val Arg Tyr Tyr
 330 335 340
 gat gtg atg tcc gac gaa gaa atc gag agg atc aag gag att gct aag 1230
 Asp Val Met Ser Asp Glu Glu Ile Glu Arg Ile Lys Glu Ile Ala Lys
 345 350 355 360
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 Pro Lys Leu Ala Arg Ala Thr Val Arg Asp Pro Lys Thr Gly Val Leu
 365 370 375
 act gtt gcc agc tac aga gtt tcc aaa agc tcc tgg cta gag gag gat 1326
 Thr Val Ala Ser Tyr Arg Val Ser Lys Ser Ser Trp Leu Glu Glu Asp
 380 385 390
 gac gac cct gtt gtg gcc cgg gtc aac cgg cgg atg caa cat atc acc 1374
 Asp Asp Pro Val Val Ala Arg Val Asn Arg Arg Met Gln His Ile Thr

395	400	405	
ggg cta acg gtg aag act gca gag cta ttg cag gtc gca aac tac gga			1422
Gly Leu Thr Val Lys Thr Ala Glu Leu Leu Gln Val Ala Asn Tyr Gly			
410	415	420	
atg ggg gga cag tac gaa cca cac ttt gac ttc tca agg agc gat gac			1470
Met Gly Gly Gln Tyr Glu Pro His Phe Asp Phe Ser Arg Ser Asp Asp			
425	430	435	440
gaa gat gct ttc aag cgt tta ggg act ggg aac cgt gtg gcc acg ttt			1518
Glu Asp Ala Phe Lys Arg Leu Gly Thr Gly Asn Arg Val Ala Thr Phe			
445	450	455	
cta aac tac atg agc gat gtc gaa gct ggt ggt gcc acc gtc ttt cct			1566
Leu Asn Tyr Met Ser Asp Val Glu Ala Gly Gly Ala Thr Val Phe Pro			
460	465	470	
gac ttg gga gct gct att tgg ccc aag aag ggc aca gct gta ttc tgg			1614
Asp Leu Gly Ala Ala Ile Trp Pro Lys Lys Gly Thr Ala Val Phe Trp			
475	480	485	
tac aac ctt ctt cgc agt ggg gaa ggt gat tat cgg acg aga cat gca			1662
Tyr Asn Leu Leu Arg Ser Gly Glu Gly Asp Tyr Arg Thr Arg His Ala			
490	495	500	
gcc tgc cct gtg ctt gtg ggc tgc aag tgg gtc tcc aac aag tgg ttc			1710
Ala Cys Pro Val Leu Val Gly Cys Lys Trp Val Ser Asn Lys Trp Phe			
505	510	515	520
cat gag cga gga cag gag ttc tta aga cct tgt gga aca acg gaa gtt			1758
His Glu Arg Gly Gln Glu Phe Leu Arg Pro Cys Gly Thr Thr Glu Val			
525	530	535	
gat tga cgtccttttc tctccgctcc tccctggccc atagtccaaa tcatcttcaa			1814
Asp			
gttcaacatg acagcttcct tttttatgtc ccagctcctg tcaggcaggt cattggagga			1874
gccagtggtt gactgaattg agagagtata tcttgagcct agtcctgggt gacctgggcc			1934

ccagactctg accagcttac acctgccctg gctctggggg tgtcttggca tggctgcggt 1994
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<210> 1036

<211> 537

<212> PRT

<213> Mus musculus

<400> 1036

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Val	Leu	Ser	Trp	Val	Gln	Ala	Glu	Phe	Phe	Thr	Ser	Ile	Gly	His	Met
				20					25					30	
Thr	Asp	Leu	Ile	Tyr	Ala	Glu	Lys	Asp	Leu	Val	Gln	Ser	Leu	Lys	Glu
				35					40					45	
Tyr	Ile	Leu	Val	Glu	Glu	Ala	Lys	Leu	Ala	Lys	Ile	Lys	Ser	Trp	Ala
				50					55					60	
Ser	Lys	Met	Glu	Ala	Leu	Thr	Ser	Arg	Ser	Ala	Ala	Asp	Pro	Glu	Gly
				65					70					75	
Tyr	Leu	Ala	His	Pro	Val	Asn	Ala	Tyr	Lys	Leu	Val	Lys	Arg	Leu	Asn
				85					90					95	
Thr	Asp	Trp	Pro	Ala	Leu	Gly	Asp	Leu	Val	Leu	Gln	Asp	Ala	Ser	Ala
				100					105					110	
Gly	Phe	Val	Ala	Asn	Leu	Ser	Val	Gln	Arg	Gln	Phe	Phe	Pro	Thr	Asp
				115					120					125	
Glu	Asp	Glu	Ser	Gly	Ala	Ala	Arg	Ala	Leu	Met	Arg	Leu	Gln	Asp	Thr
				130					135					140	

Tyr Lys Leu Asp Pro Asp Thr Ile Ser Arg Gly Glu Leu Pro Gly Thr
 145 150 155 160
 Lys Tyr Gln Ala Met Leu Ser Val Asp Asp Cys Phe Gly Leu Gly Arg
 165 170 175
 Ser Ala Tyr Asn Glu Gly Asp Tyr Tyr His Thr Val Leu Trp Met Glu
 180 185 190
 Gln Val Leu Lys Gln Leu Asp Ala Gly Glu Glu Ala Thr Val Thr Lys
 195 200 205
 Ser Leu Val Leu Asp Tyr Leu Ser Tyr Ala Val Phe Gln Leu Gly Asp
 210 215 220
 Leu His Arg Ala Val Glu Leu Thr Arg Arg Leu Leu Ser Leu Asp Pro
 225 230 235 240
 Ser His Glu Arg Ala Gly Gly Asn Leu Arg Tyr Phe Glu Arg Leu Leu
 245 250 255
 Glu Glu Glu Arg Gly Lys Ser Leu Ser Asn Gln Thr Asp Ala Gly Leu
 260 265 270
 Ala Thr Gln Glu Asn Leu Tyr Glu Arg Pro Thr Asp Tyr Leu Pro Glu
 275 280 285
 Arg Asp Val Tyr Glu Ser Leu Cys Arg Gly Glu Gly Val Lys Leu Thr
 290 295 300
 Pro Arg Arg Gln Lys Lys Leu Phe Cys Arg Tyr His His Gly Asn Arg
 305 310 315 320
 Val Pro Gln Leu Leu Ile Ala Pro Phe Lys Glu Glu Asp Glu Trp Asp
 325 330 335
 Ser Pro His Ile Val Arg Tyr Tyr Asp Val Met Ser Asp Glu Glu Ile
 340 345 350
 Glu Arg Ile Lys Glu Ile Ala Lys Pro Lys Leu Ala Arg Ala Thr Val
 355 360 365
 Arg Asp Pro Lys Thr Gly Val Leu Thr Val Ala Ser Tyr Arg Val Ser

370	375	380
Lys Ser Ser Trp Leu Glu Glu Asp Asp Asp Pro Val Val Ala Arg Val		
385	390	395
Asn Arg Arg Met Gln His Ile Thr Gly Leu Thr Val Lys Thr Ala Glu		400
	405	410
Leu Leu Gln Val Ala Asn Tyr Gly Met Gly Gly Gln Tyr Glu Pro His		415
	420	425
Phe Asp Phe Ser Arg Ser Asp Asp Glu Asp Ala Phe Lys Arg Leu Gly		430
	435	440
Thr Gly Asn Arg Val Ala Thr Phe Leu Asn Tyr Met Ser Asp Val Glu		445
	450	455
Ala Gly Gly Ala Thr Val Phe Pro Asp Leu Gly Ala Ala Ile Trp Pro		460
465	470	475
Lys Lys Gly Thr Ala Val Phe Trp Tyr Asn Leu Leu Arg Ser Gly Glu		480
	485	490
Gly Asp Tyr Arg Thr Arg His Ala Ala Cys Pro Val Leu Val Gly Cys		495
	500	505
Lys Trp Val Ser Asn Lys Trp Phe His Glu Arg Gly Gln Glu Phe Leu		510
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Arg Pro Cys Gly Thr Thr Glu Val Asp		525
	530	535

<210> 1037

<211> 2001

<212> DNA

<213> Mus musculus

<400> 1037

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aacctctgagt gcctaggcat gggagtacag gctaacgagg taggatgctg ggaggatccc 180
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aaggacttag gaaaaggctt gctaaggatt catagacagt agctcaaagc atagtggtaa 360
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agaggtaga ggttttcaac gaaggagat tgtctgatca taagtctgac tccatttgcc 480
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ctcagcagt cttgctaggg ataacaggga caggagttag cataggtcaa caactgagca 660
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<210> 1038

<211> 620

<212> DNA

<213> Mus musculus

<400> 1038

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 aacagagcgc atcatgcgtg agtacaagct agtagtcctt ggittgtgata tcgtgatgaa 180
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 taatgttgct tggaagatga acgggtagtt ggccaagaac aaggccagaa tttaggcaga 540
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 tatgtaatga cctgtcggac 620

<210> 1039

<211> 525

<212> DNA

<213> Mus musculus

<400> 1039

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 tataaagttc ttgaaatata aaagaaatga aatctgtaag aaagtctagt agagcagggtg 180
 tgttaggacg tgtacgttgg ggtgggtgtg tcagtacatc ccacgccatc caccctccact 240
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<210> 1040

<211> 729

<212> DNA

<213> Mus musculus

<400> 1040

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 atgactagag actatttgtc agtcaaaatt tgggacttga atatggagaa caggcccgtg 180
 gagacatacc aggtacatga atacctcaga agtaaacitt gctcactgtg tgaaaacgac 240
 tgcataattg acaaatttga atgttgttgg aatgggtctg acagtgttgt catgactgga 300
 tcttacaata atttcttcag aatgttcgac aggaacacaa agcgggatat aaccctagaa 360
 gcatcacgag agaacaataa gcctcgacg gttttgaagc cagcgaaggt ctgtgcaagt 420
 ggcaagcgaa agaaagatga aataagtgtt gacagcctag acttcaacaa gaaaatcctt 480
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 tgagatagtt gaatctagca ttcatacctt taagagagcg gtccattgtg gcgccccctt 660

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<210> 1041

<211> 1801

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (160).. (783)

<400> 1041

tgcgagcagt gctcgcagcc gctctctccc catctcgagt agcccggagc cagcggctcg 60
 cgagggccaa gagggcaagc ctagggaagg ctctgtccag gacgacacag ggggcacaat 120
 ccgtgtgagt cgagctgcgt ggacgtcgct gcggccacc atg gta gcc act tgc 174

Met Val Ala Thr Cys

1 5

ctt cag gtg gtg ggt ttc gtc acg agc ttc gtg ggt tgg att ggc atc 222
 Leu Gln Val Val Gly Phe Val Thr Ser Phe Val Gly Trp Ile Gly Ile

10 15 20

atc gtc aca acg tcc acc aat gac tgg gtg gtg acc tgc agc tac acc 270
 Ile Val Thr Thr Ser Thr Asn Asp Trp Val Val Thr Cys Ser Tyr Thr

25 30 35

atc ccc acc tgc cga aaa atg gac gaa ctg ggc tcc aag ggc ctg tgg 318
 Ile Pro Thr Cys Arg Lys Met Asp Glu Leu Gly Ser Lys Gly Leu Trp

40 45 50

gct gac tgc gtc atg gcc act ggt ctc tac cac tgc aaa ccc ctg gtg 366

Ala Asp Cys Val Met Ala Thr Gly Leu Tyr His Cys Lys Pro Leu Val
 55 60 65
 gac atc ctc atc ctt cca ggc tac gtg cag gct tgt aga gcc ctc atg 414
 Asp Ile Leu Ile Leu Pro Gly Tyr Val Gln Ala Cys Arg Ala Leu Met
 70 75 80 85
 att gct gcc tcc gtt ctg ggc ctg ccc gcc atc ttg ctg ctg ttg aca 462
 Ile Ala Ala Ser Val Leu Gly Leu Pro Ala Ile Leu Leu Leu Leu Thr
 90 95 100
 gtt ctc ccc tgc atc cga atg ggc cac gag cct gga gtg gcc aag tac 510
 Val Leu Pro Cys Ile Arg Met Gly His Glu Pro Gly Val Ala Lys Tyr
 105 110 115
 agg cga gcc cag ctg gct ggg gtg ctc ctt att ctg ctg gct ctc tgc 558
 Arg Arg Ala Gln Leu Ala Gly Val Leu Leu Ile Leu Leu Ala Leu Cys
 120 125 130
 gcc att gtc gcc acc atc tgg ttt cct gta tgt gcc cac cgc gag atc 606
 Ala Ile Val Ala Thr Ile Trp Phe Pro Val Cys Ala His Arg Glu Ile
 135 140 145
 acc atc gtg agc ttt ggc tac tcg ctg tac gca ggt tgg atc ggt gct 654
 Thr Ile Val Ser Phe Gly Tyr Ser Leu Tyr Ala Gly Trp Ile Gly Ala
 150 155 160 165
 gtg atg tgc ctg gtg ggt ggc tgt gtc atc gtc tgc tgc tcc ggg gat 702
 Val Met Cys Leu Val Gly Gly Cys Val Ile Val Cys Cys Ser Gly Asp
 170 175 180
 gca cag tca ttt gga gaa aac cgt ttc tat tac tct tct ggt tcc agc 750
 Ala Gln Ser Phe Gly Glu Asn Arg Phe Tyr Tyr Ser Ser Gly Ser Ser
 185 190 195
 tcg cca acg cat gcc aag agt gcc cat gtc taa gagggctgct ccactgccccg 803
 Ser Pro Thr His Ala Lys Ser Ala His Val
 200 205

ccgagggtgct gtaaatgctg ggccctgggcc tgggtttgct cgccacagtg gggagaagcc 863
 cacttccctg ccaggcacta aagccaaagt tctagaaagt atcctgcccc ggcattttga 923
 agtcgtaaca acccaccacac ccaccacca cttcttggct gccttaaaag aaagctctag 983
 ctacagttaat gccacatag tttctcctg gagttgctgg ctgtggctgt ttgctctttc 1043
 ctctgggcatt ccattgttgt tgattaaaaa aataatttgt ttctctccta aattcaaagt 1103
 tcttgggaac attgctgact tgggtgtgga ttgggaaga aataaaagat gcttttcaa 1163
 gggttaccaa cgacagtga agccttatag agacagctct cttctccctt tcggcttagt 1223
 ttcaagggtca cttatatata agagatagaa atggatagat tgggaacacg ggtgggaggg 1283
 gaactcagag ctttccctcc acgggaagct tctcttttat aagttgaggg gttgggtgtc 1343
 tttttttttt tagtttgcga ttttacattt ttctgtacgt actttttcaa gattgatcat 1403
 ttttataacc acgggtttcc tgaaaattct caattcacca atatgaagga aatgaaccaa 1463
 gcagacgtta atatgcaata aataatagta cgaagattat aactttaact gactgcccac 1523
 ggtttccagg ttgtatgct atagttttta atcctatggt tgcataatgct tcaaattaac 1583
 acatttaaaa atcttttctc cccttctatt tctgtctcca ttctgttaga gaccatgaag 1643
 cagtattggt taacataagt tgtactgtta agtttggctt catgggtgta aacaccaatg 1703
 gtctgtcagt gtctaagact ctggatactg caagctccgt ccggtgcatt tgttcaggta 1763
 aaatctgtgc aataaaataa caaacgtca aaaaaaaa 1801

<210> 1042

<211> 207

<212> PRT

<213> Mus musculus

<400> 1042

Met Val Ala Thr Cys Leu Gln Val Val Gly Phe Val Thr Ser Phe Val

1

5

10

15

Gly Trp Ile Gly Ile Ile Val Thr Thr Ser Thr Asn Asp Trp Val Val

20

25

30

Thr Cys Ser Tyr Thr Ile Pro Thr Cys Arg Lys Met Asp Glu Leu Gly
 35 40 45
 Ser Lys Gly Leu Trp Ala Asp Cys Val Met Ala Thr Gly Leu Tyr His
 50 55 60
 Cys Lys Pro Leu Val Asp Ile Leu Ile Leu Pro Gly Tyr Val Gln Ala
 65 70 75 80
 Cys Arg Ala Leu Met Ile Ala Ala Ser Val Leu Gly Leu Pro Ala Ile
 85 90 95
 Leu Leu Leu Leu Thr Val Leu Pro Cys Ile Arg Met Gly His Glu Pro
 100 105 110
 Gly Val Ala Lys Tyr Arg Arg Ala Gln Leu Ala Gly Val Leu Leu Ile
 115 120 125
 Leu Leu Ala Leu Cys Ala Ile Val Ala Thr Ile Trp Phe Pro Val Cys
 130 135 140
 Ala His Arg Glu Ile Thr Ile Val Ser Phe Gly Tyr Ser Leu Tyr Ala
 145 150 155 160
 Gly Trp Ile Gly Ala Val Met Cys Leu Val Gly Gly Cys Val Ile Val
 165 170 175
 Cys Cys Ser Gly Asp Ala Gln Ser Phe Gly Glu Asn Arg Phe Tyr Tyr
 180 185 190
 Ser Ser Gly Ser Ser Ser Pro Thr His Ala Lys Ser Ala His Val
 195 200 205

<210> 1043

<211> 1877

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (197).. (1531)

<400> 1043

ccttggtctg accctgtgag tatggttttg gccgctgcct ttaacaccgg ctttctacct 60
 tttaaaacac ggacacttga aatccttata ctctaaccctc ttaagacctt gacatccctt 120
 ccttcccaaa ctctcaccct gagggcctct caccacagat gccctgctct ctgacctgga 180
 gaccaccact tcacac atg tca cgg tta ggg gct cca aaa gag cgc cca cca 232

Met Ser Arg Leu Gly Ala Pro Lys Glu Arg Pro Pro

1

5

10

gag aca ctc aca cct ccc cca ccc tat ggc cac cag cca cag aca ggg 280
 Glu Thr Leu Thr Pro Pro Pro Pro Tyr Gly His Gln Pro Gln Thr Gly

15

20

25

tct gga gaa tct tca gga acc act ggg gac aag gat cat cta tac agc 328
 Ser Gly Glu Ser Ser Gly Thr Thr Gly Asp Lys Asp His Leu Tyr Ser

30

35

40

aca gta tgc aag cct cgg tcc cca aag cct gtg gcc cct gtg gct cct 376
 Thr Val Cys Lys Pro Arg Ser Pro Lys Pro Val Ala Pro Val Ala Pro

45

50

55

60

cca ttc tcc tct tcc agt ggt gtg ttg ggc aat ggc ctc tgt gag cta 424
 Pro Phe Ser Ser Ser Ser Gly Val Leu Gly Asn Gly Leu Cys Glu Leu

65

70

75

gac cgt ttg ctt cag gaa ctt aat gcc acc cag ttc aac att aca gat 472
 Asp Arg Leu Leu Gln Glu Leu Asn Ala Thr Gln Phe Asn Ile Thr Asp

80

85

90

gaa atc atg tct cag ttc cca tct agt aaa atg gct gaa ggg gaa gag 520
 Glu Ile Met Ser Gln Phe Pro Ser Ser Lys Met Ala Glu Gly Glu Glu

95

100

105

aag gag gac caa tct gaa gac aag agc tca ccc act gtc cct ccc agc 568
Lys Glu Asp Gln Ser Glu Asp Lys Ser Ser Pro Thr Val Pro Pro Ser
110 115 120
cca ttc cct gcc ccc tca aag cct tca gcc acc tcc gcc act cag gaa 616
Pro Phe Pro Ala Pro Ser Lys Pro Ser Ala Thr Ser Ala Thr Gln Glu
125 130 135 140
ctg gat aga ctg atg gcc tcg ctc tct gac ttc cgt gtt cag aac cat 664
Leu Asp Arg Leu Met Ala Ser Leu Ser Asp Phe Arg Val Gln Asn His
145 150 155
ctt cca gcc tca ggg cca cct cag cct cca gca gcg agc ccc acc cgt 712
Leu Pro Ala Ser Gly Pro Pro Gln Pro Pro Ala Ala Ser Pro Thr Arg
160 165 170
gaa gga tgc cca tct cca cca gga cag act agc aaa ggc agt ctg gac 760
Glu Gly Cys Pro Ser Pro Pro Gly Gln Thr Ser Lys Gly Ser Leu Asp
175 180 185
acc atg ctg ggc ctg ctg cag tct gac ctc agc cgt cgt ggt gtc ccc 808
Thr Met Leu Gly Leu Leu Gln Ser Asp Leu Ser Arg Arg Gly Val Pro
190 195 200
aca cag gcc aaa ggc ctc tgt ggc tcc tgc aat aaa cct ata gct ggg 856
Thr Gln Ala Lys Gly Leu Cys Gly Ser Cys Asn Lys Pro Ile Ala Gly
205 210 215 220
caa gtg gtt aca gcc ctg ggc aga gcc tgg cac ccg gag cac ttc ctt 904
Gln Val Val Thr Ala Leu Gly Arg Ala Trp His Pro Glu His Phe Leu
225 230 235
tgc agc ggt tgt tcc aca acc ctg gga ggc agc agc ttc ttc gag aag 952
Cys Ser Gly Cys Ser Thr Thr Leu Gly Gly Ser Ser Phe Phe Glu Lys
240 245 250
gat ggg gct ccc ttt tgc ccc gag tgc tac ttt gag cgc ttc tcc cca 1000
Asp Gly Ala Pro Phe Cys Pro Glu Cys Tyr Phe Glu Arg Phe Ser Pro

255	260	265	
cga tgt ggc ttc tgt aac caa ccc atc cga cac aaa atg gtt acc gcc			1048
Arg Cys Gly Phe Cys Asn Gln Pro Ile Arg His Lys Met Val Thr Ala			
270	275	280	
ttg ggc acc cac tgg cac cca gaa cat ttc tgc tgc gtc agc tgc gga			1096
Leu Gly Thr His Trp His Pro Glu His Phe Cys Cys Val Ser Cys Gly			
285	290	295	300
gag cct ttt gga gaa gag ggt ttc cac gag cgg gag ggt cgt ccg tac			1144
Glu Pro Phe Gly Glu Glu Gly Phe His Glu Arg Glu Gly Arg Pro Tyr			
305	310	315	
tgc cgg cgg gac ttc ctg cag ctg ttc gcc cca cgc tgc cag ggc tgc			1192
Cys Arg Arg Asp Phe Leu Gln Leu Phe Ala Pro Arg Cys Gln Gly Cys			
320	325	330	
caa ggc cct att ttg gat aac tac atc tcg gca ctc agc gcg ctc tgg			1240
Gln Gly Pro Ile Leu Asp Asn Tyr Ile Ser Ala Leu Ser Ala Leu Trp			
335	340	345	
cac cca gac tgc ttc gtg tgc agg gaa tgc ctt gcg ccc ttc tcc gga			1288
His Pro Asp Cys Phe Val Cys Arg Glu Cys Leu Ala Pro Phe Ser Gly			
350	355	360	
ggc agc ttt ttt gag cac gag ggt cgc cct ttg tgt gaa aac cat ttc			1336
Gly Ser Phe Phe Glu His Glu Gly Arg Pro Leu Cys Glu Asn His Phe			
365	370	375	380
cat gct cag cgt ggt tcg ctg tgt gcc acg tgt ggt ctc cca gtg acc			1384
His Ala Gln Arg Gly Ser Leu Cys Ala Thr Cys Gly Leu Pro Val Thr			
385	390	395	
ggc cgc tgt gtg tcc gct ctg ggc cga cgc ttc cat cca gac cac ttc			1432
Gly Arg Cys Val Ser Ala Leu Gly Arg Arg Phe His Pro Asp His Phe			
400	405	410	
acc tgc aca ttc tgc ctg cgc cca ctc acc aaa ggc tcc ttc cag gag			1480

Thr Cys Thr Phe Cys Leu Arg Pro Leu Thr Lys Gly Ser Phe Gln Glu
 415 420 425
 cgc gcc agc aag cct tac tgc cag cct tgc ttc ctg aag ctc ttc ggc 1528
 Arg Ala Ser Lys Pro Tyr Cys Gln Pro Cys Phe Leu Lys Leu Phe Gly
 430 435 440
 tga cctcctcttg ggatcagaga tctccaaaac taagccttca aaaacacatt 1581

445
 cgtgaaaaag actgagtcct ccagatccct ggctctggag ctaccaggc atccttgctc 1641
 ctctctccac ccccatcccc attgtggccc agccactgga gaggcctacc cctaagaigc 1701
 tctaggtttg tcaatttcag aaagggcccc attagcctgg aatgtagctc tcactttgac 1761
 atgattctgg ttctcttgtc tgaccaagta gaggccagga tgtccctgtt cacccatggc 1821
 acactattct gtacacattt tttttctac aaacataaaa acacactcca cacttt 1877

<210> 1044

<211> 444

<212> PRT

<213> Mus musculus

<400> 1044

Met Ser Arg Leu Gly Ala Pro Lys Glu Arg Pro Pro Glu Thr Leu Thr
 1 5 10 15
 Pro Pro Pro Pro Tyr Gly His Gln Pro Gln Thr Gly Ser Gly Glu Ser
 20 25 30
 Ser Gly Thr Thr Gly Asp Lys Asp His Leu Tyr Ser Thr Val Cys Lys
 35 40 45
 Pro Arg Ser Pro Lys Pro Val Ala Pro Val Ala Pro Pro Phe Ser Ser
 50 55 60

Ser Ser Gly Val Leu Gly Asn Gly Leu Cys Glu Leu Asp Arg Leu Leu
 65 70 75 80
 Gln Glu Leu Asn Ala Thr Gln Phe Asn Ile Thr Asp Glu Ile Met Ser
 85 90 95
 Gln Phe Pro Ser Ser Lys Met Ala Glu Gly Glu Glu Lys Glu Asp Gln
 100 105 110
 Ser Glu Asp Lys Ser Ser Pro Thr Val Pro Pro Ser Pro Phe Pro Ala
 115 120 125
 Pro Ser Lys Pro Ser Ala Thr Ser Ala Thr Gln Glu Leu Asp Arg Leu
 130 135 140
 Met Ala Ser Leu Ser Asp Phe Arg Val Gln Asn His Leu Pro Ala Ser
 145 150 155 160
 Gly Pro Pro Gln Pro Pro Ala Ala Ser Pro Thr Arg Glu Gly Cys Pro
 165 170 175
 Ser Pro Pro Gly Gln Thr Ser Lys Gly Ser Leu Asp Thr Met Leu Gly
 180 185 190
 Leu Leu Gln Ser Asp Leu Ser Arg Arg Gly Val Pro Thr Gln Ala Lys
 195 200 205
 Gly Leu Cys Gly Ser Cys Asn Lys Pro Ile Ala Gly Gln Val Val Thr
 210 215 220
 Ala Leu Gly Arg Ala Trp His Pro Glu His Phe Leu Cys Ser Gly Cys
 225 230 235 240
 Ser Thr Thr Leu Gly Gly Ser Ser Phe Phe Glu Lys Asp Gly Ala Pro
 245 250 255
 Phe Cys Pro Glu Cys Tyr Phe Glu Arg Phe Ser Pro Arg Cys Gly Phe
 260 265 270
 Cys Asn Gln Pro Ile Arg His Lys Met Val Thr Ala Leu Gly Thr His
 275 280 285
 Trp His Pro Glu His Phe Cys Cys Val Ser Cys Gly Glu Pro Phe Gly

290	295	300
Glu Glu Gly Phe His Glu Arg Glu Gly Arg Pro Tyr Cys Arg Arg Asp		
305	310	315
Phe Leu Gln Leu Phe Ala Pro Arg Cys Gln Gly Cys Gln Gly Pro Ile		320
	325	330
		335
Leu Asp Asn Tyr Ile Ser Ala Leu Ser Ala Leu Trp His Pro Asp Cys		
	340	345
		350
Phe Val Cys Arg Glu Cys Leu Ala Pro Phe Ser Gly Gly Ser Phe Phe		
	355	360
		365
Glu His Glu Gly Arg Pro Leu Cys Glu Asn His Phe His Ala Gln Arg		
	370	375
		380
Gly Ser Leu Cys Ala Thr Cys Gly Leu Pro Val Thr Gly Arg Cys Val		
	385	390
		395
Ser Ala Leu Gly Arg Arg Phe His Pro Asp His Phe Thr Cys Thr Phe		
	405	410
		415
Cys Leu Arg Pro Leu Thr Lys Gly Ser Phe Gln Glu Arg Ala Ser Lys		
	420	425
		430
Pro Tyr Cys Gln Pro Cys Phe Leu Lys Leu Phe Gly		
	435	440

<210> 1045

<211> 456

<212> DNA

<213> Homo sapiens

<400> 1045

ccaatgtgct ggagatctgg aacctcgtgt tcatccagta taacagggag tcggatgggtg 60
 ttctgaaacc tcttcccaag aaaagcatcg acacagggat gggcctagag aggctgggtgt 120

ctgtgctgca gaacaagatg tccaactacg acaccgacct tticcatgcct tacttcgaag 180
 ccattcagaa gggcaccggc gcccnngccg tatactggga aggttgggtgc tgaggatgca 240
 gacggaatcg acatggccta cggggttctg gctgaccacg cccggaccat cactgtggcg 300
 ctggctgatg gcggccggcc tgacaacaca ggacgggggt acgtgctgag acggatcctt 360
 cgccgagctg ttcggtaatt ccatgagaaa ctgaatgcca gcagggggtt cttcgctaca 420
 ttggttgatg ttgtcgttca atccctggga aacgct 456

<210> 1046

<211> 1322

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (143).. (952)

<400> 1046

cccaatgcat tggcgccggc cgggtgccc gtcctctcggg gtcgggggtg cgggtgccc 60
 gtccccgcc tccctccgcg cgccgggtt cgccgccggc gtcgggcacg ccggactacg 120
 ccgcgacgag caggagggag cc atg gtg gcg gcg gcg cgc agg gcg gcg gcg 172

Met Val Ala Ala Ala Arg Arg Ala Ala Ala

1

5

10

gcg gcg gga agc ggg agc ggc ggc ggg ctc tgc ggc gga ggc acc gaa 220

Ala Ala Gly Ser Gly Ser Gly Gly Gly Leu Cys Gly Gly Gly Thr Glu

15

20

25

gga ggc agc gcc gag gca gag gga gcc aag atc gac gcc agt aag aac 268

Gly Gly Ser Ala Glu Ala Glu Gly Ala Lys Ile Asp Ala Ser Lys Asn

30

35

40

gag gag gat gaa ggc cat tca aac tcc tcc cca cga cac act gaa gca 316
 Glu Glu Asp Glu Gly His Ser Asn Ser Ser Pro Arg His Thr Glu Ala
 45 50 55
 gcg gcg gca cag cgg gaa gaa tgg aaa atg ttt ata gga ggc ctt agc 364
 Ala Ala Ala Gln Arg Glu Glu Trp Lys Met Phe Ile Gly Gly Leu Ser
 60 65 70
 tgg gac acc aca aag aaa gat ctg aag gac tac ttt tcc aaa ttt ggt 412
 Trp Asp Thr Thr Lys Lys Asp Leu Lys Asp Tyr Phe Ser Lys Phe Gly
 75 80 85 90
 gaa gtt gta gac tgc act ctg aag tta gat cct atc aca ggg cga tca 460
 Glu Val Val Asp Cys Thr Leu Lys Leu Asp Pro Ile Thr Gly Arg Ser
 95 100 105
 agg ggt ttt ggc ttt gtg cta ttt aaa gag tcg gag agt gta gat aag 508
 Arg Gly Phe Gly Phe Val Leu Phe Lys Glu Ser Glu Ser Val Asp Lys
 110 115 120
 gtc atg gat cag aaa gaa cat aaa ttg aat ggg aaa gtc att gat cct 556
 Val Met Asp Gln Lys Glu His Lys Leu Asn Gly Lys Val Ile Asp Pro
 125 130 135
 aaa agg gcc aaa gcc atg aaa aca aaa gag cct gtc aaa aaa att ttt 604
 Lys Arg Ala Lys Ala Met Lys Thr Lys Glu Pro Val Lys Lys Ile Phe
 140 145 150
 gtt ggt ggc ctt tct cca gac aca cct gaa gaa aaa ata aga gag tac 652
 Val Gly Gly Leu Ser Pro Asp Thr Pro Glu Glu Lys Ile Arg Glu Tyr
 155 160 165 170
 ttt ggt ggt ttt ggt gag gtt gaa tcc ata gag ctc cct atg gac aag 700
 Phe Gly Gly Phe Gly Glu Val Glu Ser Ile Glu Leu Pro Met Asp Lys
 175 180 185
 aag acc aat aag agg cgt ggg ttc tgt ttt att acc ttt aag gaa gag 748
 Lys Thr Asn Lys Arg Arg Gly Phe Cys Phe Ile Thr Phe Lys Glu Glu

190	195	200	
gag cca gtg aag aag ata atg gaa aag aaa tac cac aat gtt ggt ctt			796
Glu Pro Val Lys Lys Ile Met Glu Lys Lys Tyr His Asn Val Gly Leu			
205	210	215	
agt aaa tgt gaa ata aaa gta gcc atg tca aag gaa cag tat cag cag			844
Ser Lys Cys Glu Ile Lys Val Ala Met Ser Lys Glu Gln Tyr Gln Gln			
220	225	230	
cag cag cag tgg gga tct aga gga ggg ttt gca gca gag ctc gcg aag			892
Gln Gln Gln Trp Gly Ser Arg Gly Gly Phe Ala Ala Glu Leu Ala Lys			
235	240	245	250
agg tgg aga tca gca gag tgg tta tgg gaa agt atc cag gcg agg tgg			940
Arg Trp Arg Ser Ala Glu Trp Leu Trp Glu Ser Ile Gln Ala Arg Trp			
255	260	265	
aca tca aaa tag ctacaaacca tactaaatta ticcatttgc aacttatecc			992
Thr Ser Lys			
270			
caacaggtgg tgaagcagta ttttccaatt tgaagattca tttgaagggtg gctcctgtcg			1052
actaatagca gttcaaacta aatTTTTTct atcaagttcc tgaatggaag tatgacgttg			1112
ggtcctctg aagtttaatt ctgagttctc attaaaagaa tttgctttca ttgttttatt			1172
tcttaattcg tatgcttcag tatcaatttg tgttttatgc ccccccccc cccagatt			1232
gtagagcaag tcttgtgtta aaaaaagccc agtgtgacag tgtcatgatg tagtagtgc			1292
ttactggttt ttttaataaat ccttttgtat			1322

<210> 1047

<211> 269

<212> PRT

<213> Mus musculus

<400> 1047

Met Val Ala Ala Ala Arg Arg Ala Ala Ala Ala Gly Ser Gly Ser
 1 5 10 15
 Gly Gly Gly Leu Cys Gly Gly Gly Thr Glu Gly Gly Ser Ala Glu Ala
 20 25 30
 Glu Gly Ala Lys Ile Asp Ala Ser Lys Asn Glu Glu Asp Glu Gly His
 35 40 45
 Ser Asn Ser Ser Pro Arg His Thr Glu Ala Ala Ala Ala Gln Arg Glu
 50 55 60
 Glu Trp Lys Met Phe Ile Gly Gly Leu Ser Trp Asp Thr Thr Lys Lys
 65 70 75 80
 Asp Leu Lys Asp Tyr Phe Ser Lys Phe Gly Glu Val Val Asp Cys Thr
 85 90 95
 Leu Lys Leu Asp Pro Ile Thr Gly Arg Ser Arg Gly Phe Gly Phe Val
 100 105 110
 Leu Phe Lys Glu Ser Glu Ser Val Asp Lys Val Met Asp Gln Lys Glu
 115 120 125
 His Lys Leu Asn Gly Lys Val Ile Asp Pro Lys Arg Ala Lys Ala Met
 130 135 140
 Lys Thr Lys Glu Pro Val Lys Lys Ile Phe Val Gly Gly Leu Ser Pro
 145 150 155 160
 Asp Thr Pro Glu Glu Lys Ile Arg Glu Tyr Phe Gly Gly Phe Gly Glu
 165 170 175
 Val Glu Ser Ile Glu Leu Pro Met Asp Lys Lys Thr Asn Lys Arg Arg
 180 185 190
 Gly Phe Cys Phe Ile Thr Phe Lys Glu Glu Glu Pro Val Lys Lys Ile
 195 200 205
 Met Glu Lys Lys Tyr His Asn Val Gly Leu Ser Lys Cys Glu Ile Lys
 210 215 220

Val Ala Met Ser Lys Glu Gln Tyr Gln Gln Gln Gln Gln Trp Gly Ser
 225 230 235 240
 Arg Gly Gly Phe Ala Ala Glu Leu Ala Lys Arg Trp Arg Ser Ala Glu
 245 250 255
 Trp Leu Trp Glu Ser Ile Gln Ala Arg Trp Thr Ser Lys
 260 265

<210> 1048

<211> 503

<212> DNA

<213> Mus musculus

<400> 1048

ctcagccgta cattctgcag catcctgggtg ccgtgttaac tccctcaatg gaacatacca 60
 tgtcactaca acctgcttcc atgatacagcc ctctgggtca gcagatgagt catctgtcac 120
 tgggcagcac cggaacatac atgcctgcaa catcagccat gcaaggagcc tacttggcac 180
 agtatacaca catgcagacc gcggcggtgc ccgttgagga agcaagtggc cagcagcagg 240
 tggctgtgga gacgtctaata gaccattctc catatacctt tccacccaat aagtaactgt 300
 gagatgtacc gaaggnagtt cttacctgaa gaagggtgtg aaggctgaac aatcatggat 360
 ttttctgata aattgtgctt taggaaattt ttgacagttt tgcacaggtt cttgaaaacg 420
 ttatttataa tgaaatcaac taaaactatt ttgtctataa gttctataag gtgcataaaa 480
 cccttaaatt catctagtag ctg 503

<210> 1049

<211> 2827

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (225).. (695)

<400> 1049

tgggttgggg tgacggcggg cggcgggtgg cagggacttg ttgttcttcg ccgagtcgga 60
 acgagaagtc cgaagcgcgc aggcggagac ggcgactaag gggagcgcga gagcagaagc 120
 gcttgtgaaa gactgcgtgt ccgcaaggag ccgccgcgcc cggccccgcg cgcgacccgg 180
 ctacgatttt ctggctgttc cgtcctgggtg acagggcccg gggt atg acg act aat 236

Met Thr Thr Asn

1

ccc aag ccc aac aag gca ttg aag gtc aag aag gag gcg ggt gag aac 284

Pro Lys Pro Asn Lys Ala Leu Lys Val Lys Lys Glu Ala Gly Glu Asn

5

10

15

20

gcc cct gtt ctt agc gat gat gag ctg gtg tcc atg tca gtg cgg gag 332

Ala Pro Val Leu Ser Asp Asp Glu Leu Val Ser Met Ser Val Arg Glu

25

30

35

cta aac cag cac ctg cgg ggg ctc acc aag gag gag gtc act cgg ctg 380

Leu Asn Gln His Leu Arg Gly Leu Thr Lys Glu Glu Val Thr Arg Leu

40

45

50

aag cag cgg cgg cgc aca ctc aag aac aga ggc tac gcg gct agc tgt 428

Lys Gln Arg Arg Arg Thr Leu Lys Asn Arg Gly Tyr Ala Ala Ser Cys

55

60

65

cgc atc aag cgt gtg aca cag aaa gag gag ctg gaa cgg cag cgt gtg 476

Arg Ile Lys Arg Val Thr Gln Lys Glu Glu Leu Glu Arg Gln Arg Val

70

75

80

gag cta cag cag gag gtg gag aag ctg gct cga gag aac agc agc atg 524

Glu Leu Gln Gln Glu Val Glu Lys Leu Ala Arg Glu Asn Ser Ser Met

85	90	95	100	
cg	g	ctg	gag	cta
gat	gcc	ctg	cgc	tcc
aag	tat	gag	gcc	cta
cag	acc			572
Arg	Leu	Glu	Leu	Asp
Ala	Leu	Arg	Ser	Lys
Tyr	Glu	Ala	Leu	Gln
Thr				
	105	110	115	
ttc	gct	cgc	acc	gtg
gcc	cga	ggg	cct	gtc
aca	ccc	acc	aag	gtg
gcc				620
Phe	Ala	Arg	Thr	Val
Ala	Arg	Gly	Pro	Val
Thr	Pro	Thr	Lys	Val
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acc	acc	agt	gtc	atc
acc	atc	gtc	aaa	tct
gcc	gag	ctc	tcc	tcc
acc				668
Thr	Thr	Ser	Val	Ile
Thr	Ile	Val	Lys	Ser
Ala	Glu	Leu	Ser	Ser
Thr				
	135	140	145	
tct	gta	ccc	ttc	tca
gcc	gcc	tcc	tag	tgtctgctgg
ggccgggcag				715
Ser	Val	Pro	Phe	Ser
Ala	Ala	Ser		
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<211> 156

<212> PRT

<213> Mus musculus

<400> 1050

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Ser Val Arg Glu Leu Asn Gln His Leu Arg Gly Leu Thr Lys Glu Glu			
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Val Thr Arg Leu Lys Gln Arg Arg Arg Thr Leu Lys Asn Arg Gly Tyr			
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Ala Ala Ser Cys Arg Ile Lys Arg Val Thr Gln Lys Glu Glu Leu Glu			
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Arg Gln Arg Val Glu Leu Gln Gln Glu Val Glu Lys Leu Ala Arg Glu			
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Asn Ser Ser Met Arg Leu Glu Leu Asp Ala Leu Arg Ser Lys Tyr Glu			
100	105	110	
Ala Leu Gln Thr Phe Ala Arg Thr Val Ala Arg Gly Pro Val Thr Pro			
115	120	125	
Thr Lys Val Ala Thr Thr Ser Val Ile Thr Ile Val Lys Ser Ala Glu			
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<211> 3850

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (14).. (2551)

<400> 1051

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Arg Leu Arg Trp Leu Leu Ala Cys Gly Leu Leu Gly Pro Val Leu Glu	
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gcc ggg cga cca gac ttg gaa cag act gtc cat ctt tct tct tat gaa	145
Ala Gly Arg Pro Asp Leu Glu Gln Thr Val His Leu Ser Ser Tyr Glu	
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att att act cct tgg aga tta act aga gaa aga agg gaa gct ctg ggg	193
Ile Ile Thr Pro Trp Arg Leu Thr Arg Glu Arg Arg Glu Ala Leu Gly	
45 50 55 60	
ccc agt tca cag cag atc tct tac gtc atc cag gcc caa gga aaa cag	241
Pro Ser Ser Gln Gln Ile Ser Tyr Val Ile Gln Ala Gln Gly Lys Gln	
65 70 75	
cat att att cac ttg gaa aga aac aca gac ctt tta cct aat gat ttt	289
His Ile Ile His Leu Glu Arg Asn Thr Asp Leu Leu Pro Asn Asp Phe	
80 85 90	
gta gtt tac acc tac gac aag gaa ggc tcc cta ctc tct gac cat ccc	337
Val Val Tyr Thr Tyr Asp Lys Glu Gly Ser Leu Leu Ser Asp His Pro	
95 100 105	
aac gta cag agc cat tgt cac tat cga ggc tat gtg gag gga gtg cag	385
Asn Val Gln Ser His Cys His Tyr Arg Gly Tyr Val Glu Gly Val Gln	
110 115 120	
aat tcc gcg gtt gct gtg agc gcc tgc ttt gga ctc aga ggc ttg ctg	433
Asn Ser Ala Val Ala Val Ser Ala Cys Phe Gly Leu Arg Gly Leu Leu	

125	130	135	140	
cat ttg gag aat gcc agt ttt gga att gaa cct ctg cac aac agc tca	481			
His Leu Glu Asn Ala Ser Phe Gly Ile Glu Pro Leu His Asn Ser Ser				
	145	150	155	
cac ttt gag cac ata ttt tac ccc atg gat ggc atc cac cag gag cct	529			
His Phe Glu His Ile Phe Tyr Pro Met Asp Gly Ile His Gln Glu Pro				
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Leu Arg Cys Gly Val Ser Asn Arg Asp Thr Glu Lys Glu Gly Thr Gln				
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ggg gat gag gag gag cat ccg agt gtc act cag ctg ctg cgc aga aga	625			
Gly Asp Glu Glu Glu His Pro Ser Val Thr Gln Leu Leu Arg Arg Arg				
	190	195	200	
aga gct gtt cta cca cag acc cgc tat gtg gag ctg ttc att gtt gta	673			
Arg Ala Val Leu Pro Gln Thr Arg Tyr Val Glu Leu Phe Ile Val Val				
205	210	215	220	
gac aag gaa agg tac gac atg atg gga cgg aac cag act gct gtg aga	721			
Asp Lys Glu Arg Tyr Asp Met Met Gly Arg Asn Gln Thr Ala Val Arg				
	225	230	235	
gaa gag atg att cgc tta gca aac tac ctg gat agc atg tac atc atg	769			
Glu Glu Met Ile Arg Leu Ala Asn Tyr Leu Asp Ser Met Tyr Ile Met				
	240	245	250	
tta aac att cga att gtg ctg gtt gga cta gaa att tgg aca gac aga	817			
Leu Asn Ile Arg Ile Val Leu Val Gly Leu Glu Ile Trp Thr Asp Arg				
	255	260	265	
aat cct atc aat ata att gga gga gct gga gat gtg ctg ggc aac ttt	865			
Asn Pro Ile Asn Ile Ile Gly Gly Ala Gly Asp Val Leu Gly Asn Phe				
	270	275	280	
gtt cag tgg cgg gaa aag ttc ctt ata act cgt cgg aga cac gac agt	913			

Val Gln Trp Arg Glu Lys Phe Leu Ile Thr Arg Arg Arg His Asp Ser	
285	290 295 300
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Ala Gln Leu Val Leu Lys Lys Gly Phe Gly Gly Thr Ala Gly Met Ala	
305 310 315	
ttt gta gga aca gta tgt tca agg agc cac gca ggt ggg atc aat gtg	1009
Phe Val Gly Thr Val Cys Ser Arg Ser His Ala Gly Gly Ile Asn Val	
320 325 330	
ttt ggg caa atc act gtg gag aca ttt gca tcc att gtt gct cat gaa	1057
Phe Gly Gln Ile Thr Val Glu Thr Phe Ala Ser Ile Val Ala His Glu	
335 340 345	
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Leu Gly His Asn Leu Gly Met Asn His Asp Asp Gly Arg Glu Cys Phe	
350 355 360	
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Cys Gly Ala Lys Ser Cys Ile Met Asn Ser Gly Ala Ser Gly Ser Arg	
365 370 375 380	
aac ttt agc agt tgc agt gcg gag gac ttt gag aag tta acg ttg aat	1201
Asn Phe Ser Ser Cys Ser Ala Glu Asp Phe Glu Lys Leu Thr Leu Asn	
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Lys Gly Gly Ser Cys Leu Leu Asn Ile Pro Lys Pro Asp Glu Ala Tyr	
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Ser Ala Pro Ser Cys Gly Asn Lys Leu Val Asp Pro Gly Glu Glu Cys	
415 420 425	
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Asp Cys Gly Thr Ala Lys Glu Cys Glu Val Asp Pro Cys Cys Glu Gly	
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 Cys Pro Pro Asp Val Phe Ile Gln Asn Gly Tyr Pro Cys Gln Asn Ser
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 Lys Ala Tyr Cys Tyr Asn Gly Met Cys Gln Tyr Tyr Asp Ala Gln Cys
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Phe Gln Leu Gly Ser Asp Val Pro Asp Pro Gly Met Val Asn Glu Gly			
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acc aaa tgt gat gct ggc aag att tgc agg aat ttt cag tgt gta aat			1921
Thr Lys Cys Asp Ala Gly Lys Ile Cys Arg Asn Phe Gln Cys Val Asn			
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gct tct gtc ctg aat tat gac tgt gac att cag gga aaa tgt cat ggc			1969
Ala Ser Val Leu Asn Tyr Asp Cys Asp Ile Gln Gly Lys Cys His Gly			
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cat ggg gta tgt aac agc aat aag aat tgt cac tgt gaa gat ggc tgg			2017
His Gly Val Cys Asn Ser Asn Lys Asn Cys His Cys Glu Asp Gly Trp			
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gct ccc cca cac tgt gac acc aaa gga tat gga gga agc gtg gac agc			2065
Ala Pro Pro His Cys Asp Thr Lys Gly Tyr Gly Gly Ser Val Asp Ser			
670	675	680	
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Gly Pro Thr Tyr Asn Ala Lys Ser Thr Ala Leu Arg Asp Gly Leu Leu			
685	690	695	700
gtc ttc ttc ttc cta atc gtc ccc ctt gtt gcg gct gcc att ttc ctc			2161
Val Phe Phe Phe Leu Ile Val Pro Leu Val Ala Ala Ala Ile Phe Leu			
705	710	715	
ttt atc aag aga gat gaa cta cgg aaa acc ttc agg aag aag aga tca			2209
Phe Ile Lys Arg Asp Glu Leu Arg Lys Thr Phe Arg Lys Lys Arg Ser			
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caa atg tca gat ggc aga aat caa gca aac gtc tct aga cag cca gga			2257
Gln Met Ser Asp Gly Arg Asn Gln Ala Asn Val Ser Arg Gln Pro Gly			
735	740	745	
gat cct agt atc tcc aga cca cca ggg ggc cca aat gtc tcc aga cca			2305

Asp Pro Ser Ile Ser Arg Pro Pro Gly Gly Pro Asn Val Ser Arg Pro
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<211> 845

<212> PRT

<213> Mus musculus

<400> 1052

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 35 40 45
 Trp Arg Leu Thr Arg Glu Arg Arg Glu Ala Leu Gly Pro Ser Ser Gln
 50 55 60
 Gln Ile Ser Tyr Val Ile Gln Ala Gln Gly Lys Gln His Ile Ile His

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Leu Glu Arg Asn Thr Asp Leu Leu Pro Asn Asp Phe Val Val Tyr Thr			
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Tyr Asp Lys Glu Gly Ser Leu Leu Ser Asp His Pro Asn Val Gln Ser			
	100	105	110
His Cys His Tyr Arg Gly Tyr Val Glu Gly Val Gln Asn Ser Ala Val			
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Ala Val Ser Ala Cys Phe Gly Leu Arg Gly Leu Leu His Leu Glu Asn			
	130	135	140
Ala Ser Phe Gly Ile Glu Pro Leu His Asn Ser Ser His Phe Glu His			
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Ile Phe Tyr Pro Met Asp Gly Ile His Gln Glu Pro Leu Arg Cys Gly			
	165	170	175
Val Ser Asn Arg Asp Thr Glu Lys Glu Gly Thr Gln Gly Asp Glu Glu			
	180	185	190
Glu His Pro Ser Val Thr Gln Leu Leu Arg Arg Arg Arg Ala Val Leu			
	195	200	205
Pro Gln Thr Arg Tyr Val Glu Leu Phe Ile Val Val Asp Lys Glu Arg			
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Tyr Asp Met Met Gly Arg Asn Gln Thr Ala Val Arg Glu Glu Met Ile			
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Arg Leu Ala Asn Tyr Leu Asp Ser Met Tyr Ile Met Leu Asn Ile Arg			
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Ile Val Leu Val Gly Leu Glu Ile Trp Thr Asp Arg Asn Pro Ile Asn			
	260	265	270
Ile Ile Gly Gly Ala Gly Asp Val Leu Gly Asn Phe Val Gln Trp Arg			
	275	280	285
Glu Lys Phe Leu Ile Thr Arg Arg Arg His Asp Ser Ala Gln Leu Val			
	290	295	300

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 Val Cys Ser Arg Ser His Ala Gly Gly Ile Asn Val Phe Gly Gln Ile
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 Thr Val Glu Thr Phe Ala Ser Ile Val Ala His Glu Leu Gly His Asn
 340 345 350
 Leu Gly Met Asn His Asp Asp Gly Arg Glu Cys Phe Cys Gly Ala Lys
 355 360 365
 Ser Cys Ile Met Asn Ser Gly Ala Ser Gly Ser Arg Asn Phe Ser Ser
 370 375 380
 Cys Ser Ala Glu Asp Phe Glu Lys Leu Thr Leu Asn Lys Gly Gly Ser
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 Cys Gly Asn Lys Leu Val Asp Pro Gly Glu Glu Cys Asp Cys Gly Thr
 420 425 430
 Ala Lys Glu Cys Glu Val Asp Pro Cys Cys Glu Gly Ser Thr Cys Lys
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 Leu Lys Ser Phe Ala Glu Cys Ala Tyr Gly Asp Cys Cys Lys Asp Cys
 450 455 460
 Gln Phe Leu Pro Gly Gly Ser Met Cys Arg Gly Lys Thr Ser Glu Cys
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 485 490 495
 Val Phe Ile Gln Asn Gly Tyr Pro Cys Gln Asn Ser Lys Ala Tyr Cys
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 Tyr Asn Gly Met Cys Gln Tyr Tyr Asp Ala Gln Cys Gln Val Ile Phe
 515 520 525
 Gly Ser Lys Ala Lys Ala Ala Pro Arg Asp Cys Phe Ile Glu Val Asn

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Thr Pro Ser Arg Gly Thr Lys Cys Trp Gly Val Asp Phe Gln Leu Gly		590
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Ser Asp Val Pro Asp Pro Gly Met Val Asn Glu Gly Thr Lys Cys Asp		605
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Ala Gly Lys Ile Cys Arg Asn Phe Gln Cys Val Asn Ala Ser Val Leu		620
625	630	635
Asn Tyr Asp Cys Asp Ile Gln Gly Lys Cys His Gly His Gly Val Cys		640
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	660	665
Cys Asp Thr Lys Gly Tyr Gly Gly Ser Val Asp Ser Gly Pro Thr Tyr		670
	675	680
Asn Ala Lys Ser Thr Ala Leu Arg Asp Gly Leu Leu Val Phe Phe Phe		685
	690	695
Leu Ile Val Pro Leu Val Ala Ala Ala Ile Phe Leu Phe Ile Lys Arg		700
705	710	715
Asp Glu Leu Arg Lys Thr Phe Arg Lys Lys Arg Ser Gln Met Ser Asp		720
	725	730
Gly Arg Asn Gln Ala Asn Val Ser Arg Gln Pro Gly Asp Pro Ser Ile		735
	740	745
Ser Arg Pro Pro Gly Gly Pro Asn Val Ser Arg Pro Pro Gly Gly Pro		750
	755	760
		765

Gly Val Ser Arg Pro Pro Gly Gly Pro Gly Val Ser Arg Pro Pro Gly
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 Gly Pro Gly Val Ser Arg Pro Pro Pro Gly His Gly Asn Arg Phe Pro
 785 790 795 800
 Val Pro Thr Tyr Ala Ala Lys Gln Pro Ala Gln Phe Pro Ser Arg Pro
 805 810 815
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<211> 145

<212> DNA

<213> Mus musculus

<400> 1053

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<210> 1054

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<212> DNA

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<220>

<221> CDS

<222> (36).. (1280)

<400> 1054

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Thr Trp Arg Asp Pro Gln Asp Glu Val Pro Gly Ser Gln Gly Ser Gln
          10           15           20

gcc tcg cag gcg ccg ccc gtg ccg ggc ccg ccg cct ggc ccc ccg cac      149
Ala Ser Gln Ala Pro Pro Val Pro Gly Pro Pro Pro Gly Pro Pro His
          25           30           35

acg cca cag acg ccc ggc caa ggg ggc ccg gcc agc acg ccg gcc cag      197
Thr Pro Gln Thr Pro Gly Gln Gly Gly Pro Ala Ser Thr Pro Ala Gln
          40           45           50

aca gcg gct ggc ggc cag ggc ggc cct ggc ggc ccg ggc agc gac aag      245
Thr Ala Ala Gly Gly Gln Gly Gly Pro Gly Gly Pro Gly Ser Asp Lys
          55           60           65           70

cag cag cag cag cag cac atc gag tgc gtg gtg tgc ggg gac aag tcg      293
Gln Gln Gln Gln Gln His Ile Glu Cys Val Val Cys Gly Asp Lys Ser
          75           80           85

agc ggc aag cac tac ggc cag ttc acg tgc gag ggc tgc aag agc ttc      341
Ser Gly Lys His Tyr Gly Gln Phe Thr Cys Glu Gly Cys Lys Ser Phe
          90           95          100

ttc aag cgc agc gtg cgg agg aac ctg agc tac acg tgc cgc gcc aac      389
Phe Lys Arg Ser Val Arg Arg Asn Leu Ser Tyr Thr Cys Arg Ala Asn
          105          110          115

cgg aac tgt ccc atc gac cag cac cac cgc aac cag tgc cag tac tgc      437

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Arg Asn Cys Pro Ile Asp Gln His His Arg Asn Gln Cys Gln Tyr Cys
 120 125 130
 cgc ctc aaa aag tgc ctc aaa gtg ggc atg aga cgg gaa gct gta cag 485
 Arg Leu Lys Lys Cys Leu Lys Val Gly Met Arg Arg Glu Ala Val Gln
 135 140 145 150
 aga ggc agg atg cct cct acc cag cct acc cac ggg cag ttt gcc ctg 533
 Arg Gly Arg Met Pro Pro Thr Gln Pro Thr His Gly Gln Phe Ala Leu
 155 160 165
 acc aac ggg gac ccc ctc aac tgc cac tcg tac ctg tcc gga tat att 581
 Thr Asn Gly Asp Pro Leu Asn Cys His Ser Tyr Leu Ser Gly Tyr Ile
 170 175 180
 tcc ctg ctg ctg cgc gcg gag ccc tac ccc acg tcg cgc ttc ggc agt 629
 Ser Leu Leu Leu Arg Ala Glu Pro Tyr Pro Thr Ser Arg Phe Gly Ser
 185 190 195
 cag tgc atg cag cct aac aac atc atg ggc atc gag aac att tgc gaa 677
 Gln Cys Met Gln Pro Asn Asn Ile Met Gly Ile Glu Asn Ile Cys Glu
 200 205 210
 ctg gcc gca cgg atg ctc ttc agc gcc gtt gag tgg gcc cgg aac atc 725
 Leu Ala Ala Arg Met Leu Phe Ser Ala Val Glu Trp Ala Arg Asn Ile
 215 220 225 230
 ccc ttc ttc cct gac ctg cag atc acg gac cag gtg gcc ctc ctt cgc 773
 Pro Phe Phe Pro Asp Leu Gln Ile Thr Asp Gln Val Ala Leu Leu Arg
 235 240 245
 ctc acc tgg agc gag ctg ttc gtg ttg aat gcg gcc cag tgc tcc atg 821
 Leu Thr Trp Ser Glu Leu Phe Val Leu Asn Ala Ala Gln Cys Ser Met
 250 255 260
 ccc ctc cat gtc gcc ccg ctc ctt gcc gct gct ggc ctg cac gct tca 869
 Pro Leu His Val Ala Pro Leu Leu Ala Ala Ala Gly Leu His Ala Ser
 265 270 275

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ccc atg tca gcc gac cgg gtg gtc gct ttt atg gac cac ata cgg atc 917
Pro Met Ser Ala Asp Arg Val Val Ala Phe Met Asp His Ile Arg Ile
      280              285              290

ttc caa gag caa gtg gag aag ctc aag gca ctg cac gtc gac tcc gcc 965
Phe Gln Glu Gln Val Glu Lys Leu Lys Ala Leu His Val Asp Ser Ala
295              300              305              310

gag tat agc tgc ctc aag gcc ata gtc ctg ttc acc tca gat gcc tgt 1013
Glu Tyr Ser Cys Leu Lys Ala Ile Val Leu Phe Thr Ser Asp Ala Cys
      315              320              325

ggt ctg tct gat gta gcc cat gtg gaa agc ttg cag gaa aag tcc cag 1061
Gly Leu Ser Asp Val Ala His Val Glu Ser Leu Gln Glu Lys Ser Gln
      330              335              340

tgt gct ttg gaa gag tac gtt agg agc cag tac ccc aac cag cca aca 1109
Cys Ala Leu Glu Glu Tyr Val Arg Ser Gln Tyr Pro Asn Gln Pro Thr
      345              350              355

cgg ttc gga aag ctc ttg ctt cgt ctc cct tcc ctc cgc acg gtc tcc 1157
Arg Phe Gly Lys Leu Leu Leu Arg Leu Pro Ser Leu Arg Thr Val Ser
      360              365              370

tcc tca gtc ata gag caa ttg ttt ttc gtc cgt ttg gta ggt aaa acc 1205
Ser Ser Val Ile Glu Gln Leu Phe Phe Val Arg Leu Val Gly Lys Thr
375              380              385              390

ccc atc gaa acc ctc atc cgg gat atg tta ctg tcc ggc agc agt ttt 1253
Pro Ile Glu Thr Leu Ile Arg Asp Met Leu Leu Ser Gly Ser Ser Phe
      395              400              405

aac tgg cca tat atg gca att caa taa ataaataaaa ataagaaggg 1300
Asn Trp Pro Tyr Met Ala Ile Gln
      410              415

ggagtgaaac agagaaagaa aaaggcaaaa gactgggtttg ttgcttaaat ttccttctgt 1360
taagaaagga tataaaagga tggtacaagt ttgctaaaag aagagagggg agaatttaa 1420

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tggactgiga atttcagaaa gagagagact gccaaatgaa cttttacaga atgcattaaa 1480
 aaaaaagaaa gaaaacaact cctgtgttgg gcagaacaac ctgctacttc atttttgtat 1540
 aaaaaggaaa ttagtctttt tttctttttg gtaaattttt gaaaaatatt gctaaaagtg 1600
 catttaagga gattgggaga aaattagcag aatggacaaa gtaagtcatt tttttccaaa 1660
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 aatagcatag gaaaacataa aacttttaag gcaactcaga gatgggtggaa atgcacttac 1900
 aagttgggtg ccaaattgtt tttttttttt tttttttttt taaggtaaag ttgagcactc 1960
 taattagcaa gcctgggggaa tcactacaac acttagcttc cccaccccca ccccatacca 2020
 tgacaaaacc tagcttttta aaaaaaataa ttttaagaaac agaaggaact gtggaattta 2080
 ttggcagcca aggaatgtgt ccaagacaca agctgagggt tttgaataaa aaaagtgaac 2140
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 accattgaaa tcagcatgac aaaataacac tgttggcact tataggtaac gtgattgatt 2320
 cagtatccta gagtttacag ttgtgtttt taaaaaactg aaggtttttt ttttaagtgc 2380
 aacatttctg tatactgtaa aagttataat aactgaactg ttgggtcgag tctttgtgtg 2440
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<210> 1055

<211> 414

<212> PRT

<213> Mus musculus

<400> 1055

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	20		25		30										
Pro	Pro	Gly	Pro	Pro	His	Thr	Pro	Gln	Thr	Pro	Gly	Gln	Gly	Gly	Pro
	35		40		45										
Ala	Ser	Thr	Pro	Ala	Gln	Thr	Ala	Ala	Gly	Gly	Gln	Gly	Gly	Pro	Gly
	50		55		60										
Gly	Pro	Gly	Ser	Asp	Lys	Gln	Gln	Gln	Gln	Gln	His	Ile	Glu	Cys	Val
	65		70		75										80
Val	Cys	Gly	Asp	Lys	Ser	Ser	Gly	Lys	His	Tyr	Gly	Gln	Phe	Thr	Cys
			85						90						95
Glu	Gly	Cys	Lys	Ser	Phe	Phe	Lys	Arg	Ser	Val	Arg	Arg	Asn	Leu	Ser
	100							105					110		
Tyr	Thr	Cys	Arg	Ala	Asn	Arg	Asn	Cys	Pro	Ile	Asp	Gln	His	His	Arg
	115							120					125		
Asn	Gln	Cys	Gln	Tyr	Cys	Arg	Leu	Lys	Lys	Cys	Leu	Lys	Val	Gly	Met
	130							135					140		
Arg	Arg	Glu	Ala	Val	Gln	Arg	Gly	Arg	Met	Pro	Pro	Thr	Gln	Pro	Thr
	145							150					155		160
His	Gly	Gln	Phe	Ala	Leu	Thr	Asn	Gly	Asp	Pro	Leu	Asn	Cys	His	Ser
			165						170					175	
Tyr	Leu	Ser	Gly	Tyr	Ile	Ser	Leu	Leu	Leu	Arg	Ala	Glu	Pro	Tyr	Pro
	180								185					190	
Thr	Ser	Arg	Phe	Gly	Ser	Gln	Cys	Met	Gln	Pro	Asn	Asn	Ile	Met	Gly
	195							200					205		
Ile	Glu	Asn	Ile	Cys	Glu	Leu	Ala	Ala	Arg	Met	Leu	Phe	Ser	Ala	Val
	210							215					220		
Glu	Trp	Ala	Arg	Asn	Ile	Pro	Phe	Phe	Pro	Asp	Leu	Gln	Ile	Thr	Asp
	225							230					235		240
Gln	Val	Ala	Leu	Leu	Arg	Leu	Thr	Trp	Ser	Glu	Leu	Phe	Val	Leu	Asn
			245						250					255	

Ala Ala Gln Cys Ser Met Pro Leu His Val Ala Pro Leu Leu Ala Ala
 260 265 270
 Ala Gly Leu His Ala Ser Pro Met Ser Ala Asp Arg Val Val Ala Phe
 275 280 285
 Met Asp His Ile Arg Ile Phe Gln Glu Gln Val Glu Lys Leu Lys Ala
 290 295 300
 Leu His Val Asp Ser Ala Glu Tyr Ser Cys Leu Lys Ala Ile Val Leu
 305 310 315 320
 Phe Thr Ser Asp Ala Cys Gly Leu Ser Asp Val Ala His Val Glu Ser
 325 330 335
 Leu Gln Glu Lys Ser Gln Cys Ala Leu Glu Glu Tyr Val Arg Ser Gln
 340 345 350
 Tyr Pro Asn Gln Pro Thr Arg Phe Gly Lys Leu Leu Leu Arg Leu Pro
 355 360 365
 Ser Leu Arg Thr Val Ser Ser Ser Val Ile Glu Gln Leu Phe Phe Val
 370 375 380
 Arg Leu Val Gly Lys Thr Pro Ile Glu Thr Leu Ile Arg Asp Met Leu
 385 390 395 400
 Leu Ser Gly Ser Ser Phe Asn Trp Pro Tyr Met Ala Ile Gln
 405 410

<210> 1056

<211> 439

<212> DNA

<213> Mus musculus

<400> 1056

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 gcgcaggctg tactatigtg actgcactgc tgtccctggc tctgggccag ccagtgttgc 180
 agaacctggc tatgactggg gaggtctccc tcactggcaa ggtgttgcct gtgggtggca 240
 tcaaggagaa gaccattgcg gctaagcgtg caggtgtgac ctgcatcatt ctgcctgctg 300
 agaacagaaa ggactactcg gatttagctc cttttatcac agagggcctt gaagttcact 360
 tcgtggaaca ctatcgggac atattcccat tgccttcccc ggcgagacac agggaggact 420
 ggcggtggaga gatgacaca 439

<210> 1057

<211> 602

<212> DNA

<213> Mus musculus

<400> 1057

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 gtatgattga atactacgat gntgagtggc tgctatatcc tccgtccctg cgtcgtactc 180
 catcgtggga gtccattaag gacttctttg acgtgagat caagaagctc ggtingttgag 240
 aactgctact tccccatatt tagtgcttca ggctgcgtta gagaaagaga agaatacat 300
 cgaagacttt gctcctgagn gttgcttgng gttacaagat caggaaaaac atgagttggc 360
 agagccaatt gccagttcgt cctactgagt gaaacagtgg atgtatccgg cataatgctaa 420
 atgggggtga gtgcacaga gacctgcccg tcaggctcaa ccagttgtgc aatgtgtgtc 480
 gctgggagtt caaacaccca cagcctttcc tccgaactcg ggagttcgtg tggcaggatg 540
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<210> 1058

<211> 519

<212> DNA

<213> Mus musculus

<400> 1058

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 aaggtaccac tgaggagatc tgccagatct acttaaggcg catcctgcac acgtactaca 180
 agtttgacta caaggcccat cagcggcacg ttactcctcc tgaaggatcc tcaaagtcig 240
 agcaagacca ggcagaaaaat gagggtgagg actcagctgt gctaattgaa agacigtgca 300
 agtacatcta tgccaaggac cgtacagacc ggatccgtac ctgtgccatc ctctgccata 360
 ictaccatca tgcgctccac tcccgctggt atcaggcccg tgacctcatg ctcatgagcc 420
 acctacagga caacattcag cagcagacc cgccggtgca gatcctgtat aaccgtacta 480
 tgggtgactg ggcatctgtg ctttccgcca aggcctgac 519

<210> 1059

<211> 495

<212> DNA

<213> Mus musculus

<400> 1059

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 gccgttcgcc ttcgtgcgct tcgaggaccc gcgagatgct gaggatgcga tctatggaag 180
 aaacggttac gattatggcc agtgtcgact ccgtgtggag ttccccagga cttacggagg 240
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 agttcttggt tcaggacttc ctccatcagg cagctggcag gacctgaaag atcacatgcg 360
 agaagctggg gatgtctgtt atgcagacgt acagaaggac ggaatgggga tggttgaata 420

tttgagaaaa gaggacatgg aatatgctct gcgtaaactg gatgacacca aattccgctc 480
tcacgagggg gagac 495

<210> 1060

<211> 286

<212> DNA

<213> Mus musculus

<400> 1060

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gtttgagttc acggacccaa gagaagccct ccagtacttt tacttcctca gggatgagaa 120
agacagtcaa ggagaaaaca tgtttctgcg ctgtgtgagc gagcttgtga tagaaagtcg 180
agagtttgat atgattcttg gaaaactaga gaacgatgga agtagaaagc ctggagttat 240
agataagttt accagtgaca caaagcctat tatcaacaaa gttgct 286

<210> 1061

<211> 2275

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (229).. (2202)

<400> 1061

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cgacatgaac ccgctggcctt cgcgagcagt ccggacccac gatcgctttt ggcaaccaga 180
 accggcgctt cagcccccg ggtagcgtgc agcccgccgc ccagacac atg gcc ccg 237
 Met Ala Pro
 1
 agc cca aga ccc cag cat gtc ctg cac tgg agg gac gcc cac aac ttc 285
 Ser Pro Arg Pro Gln His Val Leu His Trp Arg Asp Ala His Asn Phe
 5 10 15
 tat ctc ctg tcc cca ctg atg ggc ttg ctc agt cgg gcc tgg agc cgc 333
 Tyr Leu Leu Ser Pro Leu Met Gly Leu Leu Ser Arg Ala Trp Ser Arg
 20 25 30 35
 ctg agg ggc cca gaa gtc cca gag gca tgg ctg gca aaa aca gta aca 381
 Leu Arg Gly Pro Glu Val Pro Glu Ala Trp Leu Ala Lys Thr Val Thr
 40 45 50
 gga gca gat cag ata gaa gct gcg gct ctg ctg aca cct acc cct gtc 429
 Gly Ala Asp Gln Ile Glu Ala Ala Ala Leu Leu Thr Pro Thr Pro Val
 55 60 65
 tct ggt aac ctc ctc cct cat ggg gag act gaa gaa agt gga tct cct 477
 Ser Gly Asn Leu Leu Pro His Gly Glu Thr Glu Glu Ser Gly Ser Pro
 70 75 80
 gaa cag agt caa gca gcc cag agg ctc tgc ctt gtg gaa gct gaa agt 525
 Glu Gln Ser Gln Ala Ala Gln Arg Leu Cys Leu Val Glu Ala Glu Ser
 85 90 95
 tcc cct cct gaa act tgg gga ctt tca aat gtt gat gag tac aat gca 573
 Ser Pro Pro Glu Thr Trp Gly Leu Ser Asn Val Asp Glu Tyr Asn Ala
 100 105 110 115
 aag cca gga caa gat gac ctt aga gag aag gaa atg gaa cgc aca gct 621
 Lys Pro Gly Gln Asp Asp Leu Arg Glu Lys Glu Met Glu Arg Thr Ala
 120 125 130
 ggc aag gcc aca cta cag ccc gct ggc ctg caa ggg gct gat aag agg 669

Gly Lys Ala Thr Leu Gln Pro Ala Gly Leu Gln Gly Ala Asp Lys Arg	
135	140
145	
ctt ggg gag gtg gtg gct aga gaa gag gga gtg gct gag ccc gct tat	717
Leu Gly Glu Val Val Ala Arg Glu Glu Gly Val Ala Glu Pro Ala Tyr	
150	155
160	
ccc aca tca cag ctg gag ggt ggt cca gct gag aat gaa gag gat gga	765
Pro Thr Ser Gln Leu Glu Gly Gly Pro Ala Glu Asn Glu Glu Asp Gly	
165	170
175	
gaa aca gtg aag act tac caa gct tct gct gct tcc ata gct ccg gga	813
Glu Thr Val Lys Thr Tyr Gln Ala Ser Ala Ala Ser Ile Ala Pro Gly	
180	185
190	195
tac aaa ccc agc acc cct gtg cct ttc ttg ggg gag gca gaa cat caa	861
Tyr Lys Pro Ser Thr Pro Val Pro Phe Leu Gly Glu Ala Glu His Gln	
200	205
210	
gcc acg gaa gaa aaa gga aca gaa aac aag gct gac ccc tcc aac tct	909
Ala Thr Glu Glu Lys Gly Thr Glu Asn Lys Ala Asp Pro Ser Asn Ser	
215	220
225	
cct tct tca ggc tcc cac tcc aga gcc tgg gag tac tac tct aga gag	957
Pro Ser Ser Gly Ser His Ser Arg Ala Trp Glu Tyr Tyr Ser Arg Glu	
230	235
240	
aag cct aag cag gag gga gaa gcc aag gta gag gca cac agg gca ggg	1005
Lys Pro Lys Gln Glu Gly Glu Ala Lys Val Glu Ala His Arg Ala Gly	
245	250
255	
cag ggt cac cct tgt cgg aat gct gag gct gag gaa gga gga cct gag	1053
Gln Gly His Pro Cys Arg Asn Ala Glu Ala Glu Glu Gly Gly Pro Glu	
260	265
270	275
aca act ttt gtc tgt act gga aat gcc ttc ctg aag gcc tgg gtg tat	1101
Thr Thr Phe Val Cys Thr Gly Asn Ala Phe Leu Lys Ala Trp Val Tyr	
280	285
290	

cgc cca gga gag gac aca gag gaa gaa gac aac agc gat tcg gat tca 1149
 Arg Pro Gly Glu Asp Thr Glu Glu Glu Asp Asn Ser Asp Ser Asp Ser
 295 300 305
 gct gag gaa gac aca gct cag acc ggt gcc acc ccc cat aca agt gcc 1197
 Ala Glu Glu Asp Thr Ala Gln Thr Gly Ala Thr Pro His Thr Ser Ala
 310 315 320
 ttc ctg aag gcc tgg gtg tat cgc cca gga gag gac aca gag gaa gaa 1245
 Phe Leu Lys Ala Trp Val Tyr Arg Pro Gly Glu Asp Thr Glu Glu Glu
 325 330 335
 gac agc gat tcg gat tca gct gag gaa gac aca gct cag acc ggt gcc 1293
 Asp Ser Asp Ser Asp Ser Ala Glu Glu Asp Thr Ala Gln Thr Gly Ala
 340 345 350 355
 acc ccc cat aca agt gcc ttc ctg aag gcc tgg gtg tat cgc cca gga 1341
 Thr Pro His Thr Ser Ala Phe Leu Lys Ala Trp Val Tyr Arg Pro Gly
 360 365 370
 gag gac aca gag gaa gaa aac agc gat ttg gat tca gct gag gaa gac 1389
 Glu Asp Thr Glu Glu Glu Asn Ser Asp Leu Asp Ser Ala Glu Glu Asp
 375 380 385
 aca gct cag acc ggt gcc acc ccc cat aca agt gcc ttc ctg aag gcc 1437
 Thr Ala Gln Thr Gly Ala Thr Pro His Thr Ser Ala Phe Leu Lys Ala
 390 395 400
 tgg gtg tat cgc cca gga gag gac aca gag gaa gaa aac agc gat ttg 1485
 Trp Val Tyr Arg Pro Gly Glu Asp Thr Glu Glu Glu Asn Ser Asp Leu
 405 410 415
 gat tca gct gag gaa gac aca gct cag acc ggt gcc acc cca cat aca 1533
 Asp Ser Ala Glu Glu Asp Thr Ala Gln Thr Gly Ala Thr Pro His Thr
 420 425 430 435
 agt ccc ttc ctg aag gcc tgg gtg tat cgc cca gga gag gac aca gaa 1581
 Ser Pro Phe Leu Lys Ala Trp Val Tyr Arg Pro Gly Glu Asp Thr Glu

440	445	450	
gat gac aca gaa gag gaa gag gac agt gag aat gtg gcc cca ggt gac			1629
Asp Asp Thr Glu Glu Glu Glu Asp Ser Glu Asn Val Ala Pro Gly Asp			
455	460	465	
tca gaa aca gct gac tca agc cag agt ccc tgc ctt cag ccc cag cgt			1677
Ser Glu Thr Ala Asp Ser Ser Gln Ser Pro Cys Leu Gln Pro Gln Arg			
470	475	480	
tgt cta cca gga gag aag acc aag gga cgt ggg gaa gag ccc cct ctc			1725
Cys Leu Pro Gly Glu Lys Thr Lys Gly Arg Gly Glu Glu Pro Pro Leu			
485	490	495	
ttc cag gtg gcc ttc tat tta ccc gga gag aag cca gaa tca cct tgg			1773
Phe Gln Val Ala Phe Tyr Leu Pro Gly Glu Lys Pro Glu Ser Pro Trp			
500	505	510	515
gct gca cct aag ctg ccc ctt cga ctg cag agg cgg ctc aga ttg ttc			1821
Ala Ala Pro Lys Leu Pro Leu Arg Leu Gln Arg Arg Leu Arg Leu Phe			
520	525	530	
aaa gcc ccc acc cgg gat cag gac ccc gag att cct cta aaa gct cgg			1869
Lys Ala Pro Thr Arg Asp Gln Asp Pro Glu Ile Pro Leu Lys Ala Arg			
535	540	545	
aag gta cac ttc gct gag aaa gtc aca gtc cat ttc ctt gct gtc tgg			1917
Lys Val His Phe Ala Glu Lys Val Thr Val His Phe Leu Ala Val Trp			
550	555	560	
gca gga cca gcc caa gct gcc cgt cga ggt ccc tgg gag cag ttt gca			1965
Ala Gly Pro Ala Gln Ala Ala Arg Arg Gly Pro Trp Glu Gln Phe Ala			
565	570	575	
cga gat cga agc cgc ttt gct cga cgc att gcc cag gca gag gag aag			2013
Arg Asp Arg Ser Arg Phe Ala Arg Arg Ile Ala Gln Ala Glu Glu Lys			
580	585	590	595
ctg ggt ccc tac ctt acc cct gat tcc agg gcc aga gca tgg gca cgc			2061

Leu Gly Pro Tyr Leu Thr Pro Asp Ser Arg Ala Arg Ala Trp Ala Arg
 600 605 610
 ctt aga aac cca tct ctt cca cag tcc gag cct cgc tct tcc tct gag 2109
 Leu Arg Asn Pro Ser Leu Pro Gln Ser Glu Pro Arg Ser Ser Ser Glu
 615 620 625
 gcc act ccc ttg acc caa gat gtg acc aca ccc tct ccc ctt ccc agt 2157
 Ala Thr Pro Leu Thr Gln Asp Val Thr Thr Pro Ser Pro Leu Pro Ser
 630 635 640
 gaa acc cct tcg ccc agc ctg tac ttg gga ggg agg cgg ggc taa 2202
 Glu Thr Pro Ser Pro Ser Leu Tyr Leu Gly Gly Arg Arg Gly
 645 650 655
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<210> 1062

<211> 657

<212> PRT

<213> Mus musculus

<400> 1062

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 Trp Ser Arg Leu Arg Gly Pro Glu Val Pro Glu Ala Trp Leu Ala Lys
 35 40 45
 Thr Val Thr Gly Ala Asp Gln Ile Glu Ala Ala Ala Leu Leu Thr Pro
 50 55 60

Thr Pro Val Ser Gly Asn Leu Leu Pro His Gly Glu Thr Glu Glu Ser
 65 70 75 80
 Gly Ser Pro Glu Gln Ser Gln Ala Ala Gln Arg Leu Cys Leu Val Glu
 85 90 95
 Ala Glu Ser Ser Pro Pro Glu Thr Trp Gly Leu Ser Asn Val Asp Glu
 100 105 110
 Tyr Asn Ala Lys Pro Gly Gln Asp Asp Leu Arg Glu Lys Glu Met Glu
 115 120 125
 Arg Thr Ala Gly Lys Ala Thr Leu Gln Pro Ala Gly Leu Gln Gly Ala
 130 135 140
 Asp Lys Arg Leu Gly Glu Val Val Ala Arg Glu Glu Gly Val Ala Glu
 145 150 155 160
 Pro Ala Tyr Pro Thr Ser Gln Leu Glu Gly Gly Pro Ala Glu Asn Glu
 165 170 175
 Glu Asp Gly Glu Thr Val Lys Thr Tyr Gln Ala Ser Ala Ala Ser Ile
 180 185 190
 Ala Pro Gly Tyr Lys Pro Ser Thr Pro Val Pro Phe Leu Gly Glu Ala
 195 200 205
 Glu His Gln Ala Thr Glu Glu Lys Gly Thr Glu Asn Lys Ala Asp Pro
 210 215 220
 Ser Asn Ser Pro Ser Ser Gly Ser His Ser Arg Ala Trp Glu Tyr Tyr
 225 230 235 240
 Ser Arg Glu Lys Pro Lys Gln Glu Gly Glu Ala Lys Val Glu Ala His
 245 250 255
 Arg Ala Gly Gln Gly His Pro Cys Arg Asn Ala Glu Ala Glu Glu Gly
 260 265 270
 Gly Pro Glu Thr Thr Phe Val Cys Thr Gly Asn Ala Phe Leu Lys Ala
 275 280 285
 Trp Val Tyr Arg Pro Gly Glu Asp Thr Glu Glu Glu Asp Asn Ser Asp

290	295	300
Ser Asp Ser Ala Glu Glu Asp Thr Ala Gln Thr Gly Ala Thr Pro His		
305	310	315 320
Thr Ser Ala Phe Leu Lys Ala Trp Val Tyr Arg Pro Gly Glu Asp Thr		
325	330	335
Glu Glu Glu Asp Ser Asp Ser Asp Ser Ala Glu Glu Asp Thr Ala Gln		
340	345	350
Thr Gly Ala Thr Pro His Thr Ser Ala Phe Leu Lys Ala Trp Val Tyr		
355	360	365
Arg Pro Gly Glu Asp Thr Glu Glu Glu Asn Ser Asp Leu Asp Ser Ala		
370	375	380
Glu Glu Asp Thr Ala Gln Thr Gly Ala Thr Pro His Thr Ser Ala Phe		
385	390	395 400
Leu Lys Ala Trp Val Tyr Arg Pro Gly Glu Asp Thr Glu Glu Glu Asn		
405	410	415
Ser Asp Leu Asp Ser Ala Glu Glu Asp Thr Ala Gln Thr Gly Ala Thr		
420	425	430
Pro His Thr Ser Pro Phe Leu Lys Ala Trp Val Tyr Arg Pro Gly Glu		
435	440	445
Asp Thr Glu Asp Asp Thr Glu Glu Glu Glu Asp Ser Glu Asn Val Ala		
450	455	460
Pro Gly Asp Ser Glu Thr Ala Asp Ser Ser Gln Ser Pro Cys Leu Gln		
465	470	475 480
Pro Gln Arg Cys Leu Pro Gly Glu Lys Thr Lys Gly Arg Gly Glu Glu		
485	490	495
Pro Pro Leu Phe Gln Val Ala Phe Tyr Leu Pro Gly Glu Lys Pro Glu		
500	505	510
Ser Pro Trp Ala Ala Pro Lys Leu Pro Leu Arg Leu Gln Arg Arg Leu		
515	520	525

Arg Leu Phe Lys Ala Pro Thr Arg Asp Gln Asp Pro Glu Ile Pro Leu
 530 535 540
 Lys Ala Arg Lys Val His Phe Ala Glu Lys Val Thr Val His Phe Leu
 545 550 555 560
 Ala Val Trp Ala Gly Pro Ala Gln Ala Ala Arg Arg Gly Pro Trp Glu
 565 570 575
 Gln Phe Ala Arg Asp Arg Ser Arg Phe Ala Arg Arg Ile Ala Gln Ala
 580 585 590
 Glu Glu Lys Leu Gly Pro Tyr Leu Thr Pro Asp Ser Arg Ala Arg Ala
 595 600 605
 Trp Ala Arg Leu Arg Asn Pro Ser Leu Pro Gln Ser Glu Pro Arg Ser
 610 615 620
 Ser Ser Glu Ala Thr Pro Leu Thr Gln Asp Val Thr Thr Pro Ser Pro
 625 630 635 640
 Leu Pro Ser Glu Thr Pro Ser Pro Ser Leu Tyr Leu Gly Gly Arg Arg
 645 650 655
 Gly

<210> 1063

<211> 2983

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (52).. (2373)

<400> 1063

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 Met Glu
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 caa gtg gag atc ctg agg agg ttc atc cag agg gtc cag gcc atg aag 105
 Gln Val Glu Ile Leu Arg Arg Phe Ile Gln Arg Val Gln Ala Met Lys
 5 10 15
 agt ccg gat cac aat ggg gag gac aac ttc gcc cgg gac ttc atg cga 153
 Ser Pro Asp His Asn Gly Glu Asp Asn Phe Ala Arg Asp Phe Met Arg
 20 25 30
 ttg aga aga ttg tct acc aaa tat aga aca gaa aag att tat ccc aca 201
 Leu Arg Arg Leu Ser Thr Lys Tyr Arg Thr Glu Lys Ile Tyr Pro Thr
 35 40 45 50
 gcc act gga gaa aaa gaa gaa aat gtt aaa aag aac aga tat aag gac 249
 Ala Thr Gly Glu Lys Glu Glu Asn Val Lys Lys Asn Arg Tyr Lys Asp
 55 60 65
 ata ctg cca ttt gat cac agc cga gtt aag ttg act ttg aag act cca 297
 Ile Leu Pro Phe Asp His Ser Arg Val Lys Leu Thr Leu Lys Thr Pro
 70 75 80
 tcc caa gat tca gat tat atc aat gca aat ttt att aag ggt gtg tat 345
 Ser Gln Asp Ser Asp Tyr Ile Asn Ala Asn Phe Ile Lys Gly Val Tyr
 85 90 95
 ggg cca aaa gca tat gtg gca acc caa ggg cct ttc cgg aat aca gtc 393
 Gly Pro Lys Ala Tyr Val Ala Thr Gln Gly Pro Phe Arg Asn Thr Val
 100 105 110
 ata gac ttc tgg agg atg ata tgg gag tat aat gtt gtg atg atc gtg 441
 Ile Asp Phe Trp Arg Met Ile Trp Glu Tyr Asn Val Val Met Ile Val
 115 120 125 130
 atg gcc tgt cga gaa ttt gag atg gga agg aaa aag tgt gag cgc tac 489
 Met Ala Cys Arg Glu Phe Glu Met Gly Arg Lys Lys Cys Glu Arg Tyr

135	140	145	
tgg cct ttg tat gga gaa gat cct ata aca ttt gca cca ttt aaa att			537
Trp Pro Leu Tyr Gly Glu Asp Pro Ile Thr Phe Ala Pro Phe Lys Ile			
150	155	160	
tct tgt gaa aat gaa caa gca aga acc gac tac ttc atc cga aca ctt			585
Ser Cys Glu Asn Glu Gln Ala Arg Thr Asp Tyr Phe Ile Arg Thr Leu			
165	170	175	
tta ctt gaa ttt caa aat gaa tcc cgt cgg ctc tat cag ttt cat tac			633
Leu Leu Glu Phe Gln Asn Glu Ser Arg Arg Leu Tyr Gln Phe His Tyr			
180	185	190	
gtg aac tgg cca gac cat gat gtt cct tcg tca ttt gat tct att ctg			681
Val Asn Trp Pro Asp His Asp Val Pro Ser Ser Phe Asp Ser Ile Leu			
195	200	205	210
gac atg ata agc tta atg agg aaa tac caa gaa cat gaa gat gtg cct			729
Asp Met Ile Ser Leu Met Arg Lys Tyr Gln Glu His Glu Asp Val Pro			
215	220	225	
att tgt att cat tgc agt gct ggc tgt gga cga aca ggt gct att tgt			777
Ile Cys Ile His Cys Ser Ala Gly Cys Gly Arg Thr Gly Ala Ile Cys			
230	235	240	
gcc ata gat tac acg tgg aac tta ctg aaa gca ggg aaa att cca gag			825
Ala Ile Asp Tyr Thr Trp Asn Leu Leu Lys Ala Gly Lys Ile Pro Glu			
245	250	255	
gaa ttt aat gta ttt aat tta ata caa gaa atg aga aca cag agg cac			873
Glu Phe Asn Val Phe Asn Leu Ile Gln Glu Met Arg Thr Gln Arg His			
260	265	270	
tcg gca gta caa aca aag gag cag tat gaa ctt gtt cat agg gct att			921
Ser Ala Val Gln Thr Lys Glu Gln Tyr Glu Leu Val His Arg Ala Ile			
275	280	285	290
gct caa ctg ttt gaa aac agc tac aac tgt atg aaa ttc atg gag cac			969

Ala Gln Leu Phe Glu Asn Ser Tyr Asn Cys Met Lys Phe Met Glu His	
295	300
305	
aga aga tcc gtg atg gta atg aaa tta cca ctg gaa cta tgg tca gtt	1017
Arg Arg Ser Val Met Val Met Lys Leu Pro Leu Glu Leu Trp Ser Val	
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cca ttg ata gcg aga cga gac ctc tcc gcc aaa gcc gcc gcg gac tcg	1065
Pro Leu Ile Ala Arg Arg Asp Leu Ser Ala Lys Ala Ala Ala Asp Ser	
325	330
335	
aag ttg cct tgt aga agg gga tgc caa gga aga aat act aca gcc acc	1113
Lys Leu Pro Cys Arg Arg Gly Cys Gln Gly Arg Asn Thr Thr Ala Thr	
340	345
350	
aga acc tca ccc ggt gcc acc cat cct gac gcc atc acc tcc ttc agc	1161
Arg Thr Ser Pro Gly Ala Thr His Pro Asp Ala Ile Thr Ser Phe Ser	
355	360
365	370
ctt ccc aac gtt acc act gtg tgc agg aca gtg aca ggt acc acc caa	1209
Leu Pro Asn Val Thr Thr Val Cys Arg Thr Val Thr Gly Thr Thr Gln	
375	380
385	
agc cag tgc tgc aca tgg cct cac cag agc aac acc cag ccg acc tca	1257
Ser Gln Cys Cys Thr Trp Pro His Gln Ser Asn Thr Gln Pro Thr Ser	
390	395
400	
aca gaa gct atg ata aat cag cgg acc aat ggg gca aaa agt gaa tca	1305
Thr Glu Ala Met Ile Asn Gln Arg Thr Asn Gly Ala Lys Ser Glu Ser	
405	410
415	
gct att gag cac ata gat aag aag tta gag cgc aat tta agt ttt gag	1353
Ala Ile Glu His Ile Asp Lys Lys Leu Glu Arg Asn Leu Ser Phe Glu	
420	425
430	
att aag aaa gtc cct ctc caa gaa ggg ccc aaa agt ttt gat ggg aac	1401
Ile Lys Lys Val Pro Leu Gln Glu Gly Pro Lys Ser Phe Asp Gly Asn	
435	440
445	450

aca ctc ttg aat agg gga cat gcg att aaa att aaa tct gct tca tct 1449
 Thr Leu Leu Asn Arg Gly His Ala Ile Lys Ile Lys Ser Ala Ser Ser
 455 460 465
 tct gta gtt gac aga acc tct aaa cca cag gag tta agt gca ggt gcc 1497
 Ser Val Val Asp Arg Thr Ser Lys Pro Gln Glu Leu Ser Ala Gly Ala
 470 475 480
 cta aag gtt gat gat gta tct cag aat tct tgc gcg gac tgt agt gcg 1545
 Leu Lys Val Asp Asp Val Ser Gln Asn Ser Cys Ala Asp Cys Ser Ala
 485 490 495
 gct cat tca cac aga gct gct gag tcg tca gag gag tcc cag agc aac 1593
 Ala His Ser His Arg Ala Ala Glu Ser Ser Glu Glu Ser Gln Ser Asn
 500 505 510
 tca cac aca cct cca cgg cca gac tgc ttg cct ctc gat aag aaa gga 1641
 Ser His Thr Pro Pro Arg Pro Asp Cys Leu Pro Leu Asp Lys Lys Gly
 515 520 525 530
 cac gta acg tgg tca ctt cat gga cct gaa aat gcc aca cct gta ccc 1689
 His Val Thr Trp Ser Leu His Gly Pro Glu Asn Ala Thr Pro Val Pro
 535 540 545
 gac tca cct gac ggc aaa tcc cca gat aat cat tct cag act ctg aaa 1737
 Asp Ser Pro Asp Gly Lys Ser Pro Asp Asn His Ser Gln Thr Leu Lys
 550 555 560
 acc gtg agt tcc aca ccc aac tcc acc gca gaa gag gaa gcc cac gat 1785
 Thr Val Ser Ser Thr Pro Asn Ser Thr Ala Glu Glu Glu Ala His Asp
 565 570 575
 ctt aca gag cac cac aac agc tcc cct ctg ttg aaa gct ccc ctc agc 1833
 Leu Thr Glu His His Asn Ser Ser Pro Leu Leu Lys Ala Pro Leu Ser
 580 585 590
 ttt acc aac cct ctt cac tct gac gac tgg cac tca gac gga ggg agc 1881
 Phe Thr Asn Pro Leu His Ser Asp Asp Trp His Ser Asp Gly Gly Ser

595	600	605	610	
tct gat ggt gct gtg acc agg aac aaa act agc att tca aca gca agt	1929			
Ser Asp Gly Ala Val Thr Arg Asn Lys Thr Ser Ile Ser Thr Ala Ser				
615	620	625		
gcc aca gtg tct cct gcc agt agt gct gag agt gct tgc cat agg aga	1977			
Ala Thr Val Ser Pro Ala Ser Ser Ala Glu Ser Ala Cys His Arg Arg				
630	635	640		
gta ttg ccg atg tcc att gcc aga cag gaa gta gca ggc acg ccg cat	2025			
Val Leu Pro Met Ser Ile Ala Arg Gln Glu Val Ala Gly Thr Pro His				
645	650	655		
tca ggt gct gag aaa gat gct gat gtt agt gag gag tcg cct cct cct	2073			
Ser Gly Ala Glu Lys Asp Ala Asp Val Ser Glu Glu Ser Pro Pro Pro				
660	665	670		
tta cct gaa cga act cct gag tct ttt gta tta gca gat atg cct gta	2121			
Leu Pro Glu Arg Thr Pro Glu Ser Phe Val Leu Ala Asp Met Pro Val				
675	680	685	690	
aga cct gag tgg cat gaa ctt cca aat cag gag tgg tct gaa caa agg	2169			
Arg Pro Glu Trp His Glu Leu Pro Asn Gln Glu Trp Ser Glu Gln Arg				
695	700	705		
gaa tct gaa ggc ttg aca acc tct gga aat gaa aaa cat gat gca ggg	2217			
Glu Ser Glu Gly Leu Thr Thr Ser Gly Asn Glu Lys His Asp Ala Gly				
710	715	720		
ggc atc cac aca gag gct tct gca gac tct cca cct gct ttc agt gac	2265			
Gly Ile His Thr Glu Ala Ser Ala Asp Ser Pro Pro Ala Phe Ser Asp				
725	730	735		
aag aaa gat caa ata aca aaa agt cca gca gaa gtc aca gat att ggt	2313			
Lys Lys Asp Gln Ile Thr Lys Ser Pro Ala Glu Val Thr Asp Ile Gly				
740	745	750		
ttt ggt aat cgc tgt gga aaa cct aaa gga cca aga gag cca cct tca	2361			

Phe Gly Asn Arg Cys Gly Lys Pro Lys Gly Pro Arg Glu Pro Pro Ser
 755 760 765 770
 gaa tgg aca tga tgcagggagt gaaaggacac ttcacattat actggaacac 2413
 Glu Trp Thr
 tcgaagtcca ctgaaagcca ggcttatagt attccatctt taatgtggga gctagtacga 2473
 gtaigattigt taccttagtg tgagttcttt acctgcctcc ttatactaac aggcaagtag 2533
 gtatataaatt tgataaagtc cctaaatatt attaacagaa gatgtaagaa ttctgcatgg 2593
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<210> 1064

<211> 773

<212> PRT

<213> Mus musculus

<400> 1064

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 20 25 30
 Met Arg Leu Arg Arg Leu Ser Thr Lys Tyr Arg Thr Glu Lys Ile Tyr
 35 40 45
 Pro Thr Ala Thr Gly Glu Lys Glu Glu Asn Val Lys Lys Asn Arg Tyr

50	55	60
Lys Asp Ile Leu Pro Phe Asp His Ser Arg Val Lys Leu Thr Leu Lys		
65	70	75 80
Thr Pro Ser Gln Asp Ser Asp Tyr Ile Asn Ala Asn Phe Ile Lys Gly		
85	90	95
Val Tyr Gly Pro Lys Ala Tyr Val Ala Thr Gln Gly Pro Phe Arg Asn		
100	105	110
Thr Val Ile Asp Phe Trp Arg Met Ile Trp Glu Tyr Asn Val Val Met		
115	120	125
Ile Val Met Ala Cys Arg Glu Phe Glu Met Gly Arg Lys Lys Cys Glu		
130	135	140
Arg Tyr Trp Pro Leu Tyr Gly Glu Asp Pro Ile Thr Phe Ala Pro Phe		
145	150	155 160
Lys Ile Ser Cys Glu Asn Glu Gln Ala Arg Thr Asp Tyr Phe Ile Arg		
165	170	175
Thr Leu Leu Leu Glu Phe Gln Asn Glu Ser Arg Arg Leu Tyr Gln Phe		
180	185	190
His Tyr Val Asn Trp Pro Asp His Asp Val Pro Ser Ser Phe Asp Ser		
195	200	205
Ile Leu Asp Met Ile Ser Leu Met Arg Lys Tyr Gln Glu His Glu Asp		
210	215	220
Val Pro Ile Cys Ile His Cys Ser Ala Gly Cys Gly Arg Thr Gly Ala		
225	230	235 240
Ile Cys Ala Ile Asp Tyr Thr Trp Asn Leu Leu Lys Ala Gly Lys Ile		
245	250	255
Pro Glu Glu Phe Asn Val Phe Asn Leu Ile Gln Glu Met Arg Thr Gln		
260	265	270
Arg His Ser Ala Val Gln Thr Lys Glu Gln Tyr Glu Leu Val His Arg		
275	280	285

Ala Ile Ala Gln Leu Phe Glu Asn Ser Tyr Asn Cys Met Lys Phe Met
 290 295 300
 Glu His Arg Arg Ser Val Met Val Met Lys Leu Pro Leu Glu Leu Trp
 305 310 315 320
 Ser Val Pro Leu Ile Ala Arg Arg Asp Leu Ser Ala Lys Ala Ala Ala
 325 330 335
 Asp Ser Lys Leu Pro Cys Arg Arg Gly Cys Gln Gly Arg Asn Thr Thr
 340 345 350
 Ala Thr Arg Thr Ser Pro Gly Ala Thr His Pro Asp Ala Ile Thr Ser
 355 360 365
 Phe Ser Leu Pro Asn Val Thr Thr Val Cys Arg Thr Val Thr Gly Thr
 370 375 380
 Thr Gln Ser Gln Cys Cys Thr Trp Pro His Gln Ser Asn Thr Gln Pro
 385 390 395 400
 Thr Ser Thr Glu Ala Met Ile Asn Gln Arg Thr Asn Gly Ala Lys Ser
 405 410 415
 Glu Ser Ala Ile Glu His Ile Asp Lys Lys Leu Glu Arg Asn Leu Ser
 420 425 430
 Phe Glu Ile Lys Lys Val Pro Leu Gln Glu Gly Pro Lys Ser Phe Asp
 435 440 445
 Gly Asn Thr Leu Leu Asn Arg Gly His Ala Ile Lys Ile Lys Ser Ala
 450 455 460
 Ser Ser Ser Val Val Asp Arg Thr Ser Lys Pro Gln Glu Leu Ser Ala
 465 470 475 480
 Gly Ala Leu Lys Val Asp Asp Val Ser Gln Asn Ser Cys Ala Asp Cys
 485 490 495
 Ser Ala Ala His Ser His Arg Ala Ala Glu Ser Ser Glu Glu Ser Gln
 500 505 510
 Ser Asn Ser His Thr Pro Pro Arg Pro Asp Cys Leu Pro Leu Asp Lys

515	520	525
Lys Gly His Val Thr Trp Ser Leu His Gly Pro Glu Asn Ala Thr Pro		
530	535	540
Val Pro Asp Ser Pro Asp Gly Lys Ser Pro Asp Asn His Ser Gln Thr		
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Leu Lys Thr Val Ser Ser Thr Pro Asn Ser Thr Ala Glu Glu Glu Ala		560
565	570	575
His Asp Leu Thr Glu His His Asn Ser Ser Pro Leu Leu Lys Ala Pro		
580	585	590
Leu Ser Phe Thr Asn Pro Leu His Ser Asp Asp Trp His Ser Asp Gly		
595	600	605
Gly Ser Ser Asp Gly Ala Val Thr Arg Asn Lys Thr Ser Ile Ser Thr		
610	615	620
Ala Ser Ala Thr Val Ser Pro Ala Ser Ser Ala Glu Ser Ala Cys His		
625	630	635
Arg Arg Val Leu Pro Met Ser Ile Ala Arg Gln Glu Val Ala Gly Thr		640
645	650	655
Pro His Ser Gly Ala Glu Lys Asp Ala Asp Val Ser Glu Glu Ser Pro		
660	665	670
Pro Pro Leu Pro Glu Arg Thr Pro Glu Ser Phe Val Leu Ala Asp Met		
675	680	685
Pro Val Arg Pro Glu Trp His Glu Leu Pro Asn Gln Glu Trp Ser Glu		
690	695	700
Gln Arg Glu Ser Glu Gly Leu Thr Thr Ser Gly Asn Glu Lys His Asp		
705	710	715
Ala Gly Gly Ile His Thr Glu Ala Ser Ala Asp Ser Pro Pro Ala Phe		720
725	730	735
Ser Asp Lys Lys Asp Gln Ile Thr Lys Ser Pro Ala Glu Val Thr Asp		
740	745	750

Ile Gly Phe Gly Asn Arg Cys Gly Lys Pro Lys Gly Pro Arg Glu Pro

755

760

765

Pro Ser Glu Trp Thr

770

<210> 1065

<211> 244

<212> DNA

<213> Mus musculus

<400> 1065

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gcctatccct agtgtcctca tccctatctc ctgagggtac acttactcgt ggaggcatcc 180
ggttgccgaa gcagtcacgc attcagcgga gatcaccatt ccaggttact attagaggcc 240
gcgc 244
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<210> 1066

<211> 330

<212> DNA

<213> Mus musculus

<400> 1066

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tgccctatgg ccccttccct gggccctatt ggtccagaag gagcctctgt gctgggtgca 180
gaacatgggg cactcatggg aatcacccca ctcccttctg ggcagcactg gtgcctctgc 240
tcctccgact gtaaaccgtc tcaagtgcaa tgccccctcc ctcccttgc caaggacaga 300
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<210> 1067

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic DNA

<400> 1067

atgciccttcc gagctgtgct

20

<210> 1068

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic DNA

<400> 1068

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20